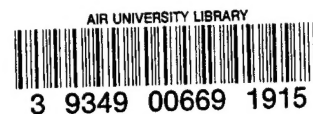# ASSESSING THE COMMUNICATION SKILLS CURRICULA OF AIR FORCE PROFESSIONAL MILITARY EDUCATION PROGRAMS

A Research Paper

Presented To

The Directorate of Research

Air Command and Staff College

DTIC QUALITY INSPECTED 2

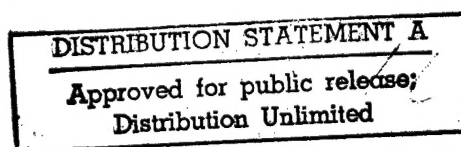In Partial Fulfillment of the Graduation Requirements of ACSC

by

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April 1996

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Preface

In this age of joint warfighting and a changing military, success still depends, more than ever, on people. Behind every military operation, every technological innovation, and every campaign plan stands the warfighter—the human being. Critically important to the success of the warfighter is the input of knowledge and the output of behavioral change—otherwise known as the process of learning. When learning is viewed as a process containing inputs and outputs, then communication skills must be the factors which most directly affect the success of this process. Improving communication skills would therefore improve the learning process.

Learning takes place in many forms within the Air Force and particularly within Air University. Professional military education (PME) is the core of professional learning for the Air Force member. Communication skill instruction within PME, properly designed to influence key interpersonal career skills, would therefore be vital to the success of the Air Force warfighter.

This project grew from an issue regarding reading grade level of PME course materials into what the authors felt overshadowed this issue: how communication skills are taught within PME. Teaching communication skills has historically been a difficult issue to research. The purpose of research is to propose questions, answer those questions, and develop recommendations for dealing with complex issues such as this.

Abstract

A perception exists among mid-level career Air Force members that communication skills are important job skills for all ranks and that some individuals lack the necessary skills. Air University's (AU) Professional Military Education (PME) programs have historically been involved in fostering these skills. The purpose of this research is to provide recommendations to improve the teaching of communication skills within PME. The challenge of this study was meeting the expectations of the intended user, examining a complex, multidimensional issue in a real-world setting, and integrating the values and experiences of the researchers and intended users. This effort takes advantage of the unique student population of AU PME by applying technical policy research with a multi-dimensional methodology: an extensive literature search, a survey instrument, key personnel interviews, and archival records search. Careful analysis of the resulting data lead to numerous conclusions and recommendations for improvement. Among the conclusions are that 1) communication skills instruction must be based on the needs of its users; 2) communication is a process and communication skills should be taught and evaluated accordingly; 3) communication skills instruction is more effective when based on the contextual needs of its students; 4) individual communication skills should be developed commensurate with professional growth; 5) communication skills instruction is more effective when taught as an across-the-curriculum approach; 6) although relatively less expertise is needed to *evaluate* communication skills, a great deal of

expertise is required to *teach* communication skills. These conclusions lead to the following recommendations: 1) establish a tiger team to develop a communication skills assessment methodology to determine the needs of Air Force personnel; 2) integrate feedback to students throughout the communication process; 3) teach communication skills in a context-based format across the entire curriculum; and 4) place a high priority on increasing faculty training for teaching and evaluating communication skills.

Chapter 1

INTRODUCTION

NATURE AND BACKGROUND OF THE STUDY

There is a story in the Bible, Judges 12:1-7, about a group of people called the Gileadites who controlled the fords of the Jordan river against the Ephraimites. Whenever one of the Ephraimites tried to cross the river the Gileadites would ask them to "pronounce the word *Shibboleth*." If the person was not able to pronounce the word correctly, he was seized and slain by the fords of the river Jordan. Over a period of time more than forty-two thousand Ephraimites fell because of their lack of communication skills.

Although this story is quite ancient, the idea that poor communication skills lead to undesirable results remains relevant today. The National Adult Literacy Survey conducted in 1992 concluded that low literacy skills correlate with a low quality of life.[1] Other studies have also indicated a relationship between communication skills and a variety of demographic and personal characteristics.[2] As the population of the United States continues to change to a more diverse, culturally different workforce, the challenge

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of improving or maintaining current literacy levels will become increasingly more difficult.[3]

The United States Air Force Air University (AU) was established in 1946 to provide a unified and integrated educational program for career officers, and eventually noncommissioned officers (NCOs). "Since human lives may pay the price for ineffectual leadership, the Air Force considers communicative ability absolutely vital in its commanders and staff members."[4] Although Mahaffey's statement is over 35 years old, the research team believes it holds true today. Communication skills continues to be taught at all levels of AU professional military education (PME). Therefore, it is reasonable to assume an important goal of each school, either explicitly or implicitly stated, is to produce Air Force members who can communicate effectively. However, perceptions exist that this training lacks focus and consistency across all PME programs. This policy research work directly addresses this perception by examining the Air Force's parallels with civilian industry, and AU's unique link with civilian academia, since both industry and academia have continuously struggled with communication skills issues.

Workplace managers have been very concerned about employee communication skills and more importantly the effect poor communication skills have on productivity. Increasingly, studies show growing concern over the inability of less educated employees to keep up as the nature of work shifts from producing widgets to producing information, otherwise known as the "information age."[5] Researchers and educators alike have wrestled to define key issues with literacy and basic skills according to the perspective of everyone concerned. Sometimes attempting to precisely define literacy is the key issue; the definition of communication skills varies from study to study and industry to industry.

In the workplace, managers often use the terms "literacy" or "basic skills" when describing problems with communication. Sometimes the debate centers over how to assess worker skills in order to compare current skills to desired work or career skills. For career advancement advocates, the issue is not whether people functioning as employees can demonstrate basic mechanics of reading, writing, and speaking, but instead whether their existing skills can improve enough to facilitate career progression.[6] Workplace managers are immediately concerned about the negative impact poor communication skills have on productivity and profitability. Still others concern themselves with making workplace advances in literacy the basis for societal improvement—a decidedly non-contextual approach. Regardless of the nature of the issue, the workplace is the common connection between AU's Air Force environment and civilian industry.

AU is an academic institution concerned with its graduates' performance in the Air Force workplace. Academic institutions in general continuously address how to teach communication skills to students who eventually enter the workplace. Academia's interest has been heightened by recent mandates for greater assessment of student performance[7] and industry's expressed need for better communicators.[8] Prominent communication education experts are concerned that communication departments and curriculum programs lack clear vision, provide little in the way of research to deal with this issue, and tend to offer an underdeveloped curriculum for communication study.[9] Not surprising, there is little agreement on which approach works best, or if there is any difference between program approaches. However, there *are* several programs across the United States receiving positive results using new approaches to teaching communication

skills. In this context the classroom becomes the common connection between AU and civilian academia.

STATEMENT OF THE PROBLEM

The federal government identified speaking, listening, reading, writing, and math as "basic skills" in public law 95-561, the 1978 Amendment to the Elementary/Secondary Education Act.[10] Four of these five are communication skills which contribute to the process of learning. Listening and reading are two key inputs into this process, while speaking and writing are two key outputs. AU PME schools frequently measure learning output of their students by evaluating their spoken and written products. This policy research study therefore centers on improving the programs that further develop these output-based communication skills.

The purpose of this study is to examine the following broad research question: How can we more effectively teach communication skills at AU and thereby improve communication skills throughout the Air Force? Since the corporate Air Force has much in common with corporate America, and AU is similar to other institutions of higher education, the research team decided to investigate communication skills in such organizations. More specifically, this study sought answers to the following subsidiary questions:

1. How does corporate America deal with communication skills problems?

2. What are the concerns of academic institutions across America regarding teaching communication skills?

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3. How well does the way that AU currently teaches communication skills meet the needs of its students?

The action orientation and technical focus of this study dictated a technical policy research design.[11] That is, the research team employed a multi-dimensional approach to answer the broad and subsidiary research questions. The team used a survey instrument to gather data from a population of AU students regarding the perception of Air Force problems with communication skills. An investigative interview methodology examined the current curriculum offered at all AU PME schools for specific communication skills material. A literature search provided additional data on the nature of the problem as well as the current situation in the workplace and in academic institutions. The research team analyzed data from each source and synthesized their findings into several policy recommendations.

SIGNIFICANCE OF THE PROBLEM

Since the military believes communication skills are essential prerequisite skills for developing and performing leadership—the art of influencing others to accomplish a task—this link should be briefly addressed. Aitken and Neer identified leadership as a core competency that should be incorporated into college curriculums.[12] They suggest that by observing leadership and assessing the ability to demonstrate it, the ability to communicate can be indirectly assessed. Although great communicators are not necessarily great leaders, Aitken and Neer's work does suggest the importance of good communication skills in developing good leadership.

Communication skills are not only important for leaders, but are also essential in non-leadership positions. The majority of corporate America's workplace literacy programs are not aimed primarily at developing great leaders, but instead focus on developing competent, safe, and productive employees. Workplace literacy and basic skills programs also focus on reducing the impact of two major shifts in American industry: changing worker demographics and the changing nature of work itself.[13] The review of literature provided many examples of direct measurable success, ranging from savings produced through decreased accident rates to profits gained as a result of greater productivity. But curiously, the literature search also uncovered the many complexities that exist within communication skills research—from trying to define the problem itself to trying to provide the "right" solution. There seemingly is not "one" problem nor is there one "right" solution.

Paradoxically, even as the US has advanced to the status of the world's only superpower, the reading abilities of its people are less than ideal.[14] Shaw believes that our technological society does not particularly depend upon education, and can in fact employ "illiterate" workers.[15] He concluded that a lessening reliance upon human factors leads to higher productivity and seemingly compensates for the drop in relative education level.

Another issue prevalent in the literature is that the "state of the art" for teaching communication skills is not clearly defined. Even identifying someone as a communication researcher or communication professor is an ambiguous statement due to the current confusion within the discipline.[16] However, Rubin and Graham found a strong relationship between communication skills and academic performance.[17] Furthermore,

Rubin, Graham, and Mignerey found that effective leadership not only correlated with overall success in college, but also to communication skills proficiency.[18] These findings suggest a link between communication skills, leadership, and academic performance.

The assessment of current communication skills programs at AU suggests the difficulty of defining the "state of the art" in teaching communication skills is not limited to civilian institutions. Emphasis and methodology differed at each of the schools examined during this study. Programs ranged from zero curriculum hours in communication skills to an approach that resembles a more modern across-the-curriculum approach found in civilian institutions. The argument for such diversity seems to be the diversity of the student body itself—differing in age, rank, and educational background. Although one can predict the age, rank, and educational level of the average student at each AU PME school, an element of diversity exists within each of the schools, such as the career and organizational backgrounds of each student. Despite this diversity, the results of the survey support the position that communication skills need emphasis at all levels of PME and at all ranks. The importance of communication skills in performing one's job was clearly identified by the survey population.

Clearly, communication skills have been and will continue to be important for leaders and followers in the Air Force. AU should provide the most effective educational programs possible for such a vital skill required of Air Force people. Joseph H. Mahaffey, a consultant in communication skills for AU in the 1960's and early 1970's, suggested that although the Air Force recruits adults who have been through the American school system—many of them college graduates—the need for improved communication skills is likely to continue in the future.[19] Yet Mahaffey went on to state that there would be no

need to make any changes to the content, scope, or method of instruction in the foreseeable future.[20] The authors agree with his first point; however, they strongly disagree with his assessment about changing the instruction. This study argues that the need for change to such programs has existed since their inception and is of paramount importance now.

LIMITATIONS OF THE STUDY

Limitations of this study are based on the following items:

1. The population used in the survey was limited to United States Air Force (USAF) students attending Air Command and Staff College during academic year 1996 and Senior NCO Academy class 96B. These two schools were chosen because the student populace reflects the career fields found in the operational Air Force and represents the typical mid-career Air Force member.

2. The study recognizes that while listening and reading are the fundamental communication skills inputs into the learning process, the curricula at AU concentrate primarily on demonstrating spoken and written skills—the primary outputs of the learning process. Since an examination of the learning process is outside the scope of this research, the literature review and policy recommendations focus primarily on student communication outputs—writing and speaking.

ORGANIZATION OF THE REMAINDER OF THE STUDY

Chapter 2 reviews the literature. Because of the unique nature of AU, the literature review was divided between workplace environments, including the Air Force workplace environment, and academic institutions.

Chapter 3 explains technical policy research methodology. Chapter 3 also describes the methodology used to develop and deliver the survey instrument dealing with mid-level career, AU PME student perceptions. The chapter also discusses the interview data collection methodology employed to survey current AU PME curricula for communication skills course materials.

Chapter 4 presents data from the survey instrument as well as data collected during the interview of faculty and archival records from AU PME schools.

Chapter 5 presents the summary, conclusions, and recommendations concerning the research questions.

Notes

[1] William T. Fagan, "Adult Literacy Surveys: A Trans-Border Comparison," *Journal of Reading* 38 (January 1995): 267.

[2] Anita L. Vangelisti and John A. Daly, "Correlates of Speaking Skills in the United States: A National Assessment," *Communication Education* 38 (April 1989): 132.

[3] Mohsen Mirshafiei, "Culture as an Element in Teaching Technical Writing," *Technical Communication* 41 (April 1994): 276.

[4] Joseph H. Mahaffey, "The Communication Skills Program at the United States Air Force Air University," in *Communication in General Education*, eds. Francis Shoemaker and Louis Forsdale (Dubuque, Iowa: Wm. C. Brown Company Publishers, 1960), 189.

[5] Dale C. Brandenburg and William J. Rothwell, *The Workplace Literacy Primer* (Amherst, MA: Human Resource Development Press, 1990), 7.

[6] Ibid.

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[7] Ellen A. Hay, "A National Survey of Assessment Trends in Communication Departments," *Communication Education* 41 (July 1992): 247.

[8] Michael Cronin and Phillip Glenn, "Oral Communication Across the Curriculum in Higher Education: The State of the Art," *Communication Education* 40 (October 1991): 356.

[9] Ellen Wartella, "Challenge to the Profession," *Communication Education* 43 (January 1994): 55.

[10] Marshall G. Most, "Certification for Speech Communication Teachers: A Nationwide Survey," *Communication Education* 43 (July 1994): 196.

[11] Ann Majchrzak, *Methods for Policy Research* (Newbury Park, CA: Sage Publications, 1984), 13.

[12] Joan E. Aitken and Michael Neer, "A Faculty Program of Assessment for a College Level Competency-Based Communication Core Curriculum," *Communication Education* 41 (July 1992): 274.

[13] Brandenburg and Rothwell, 12.

[14] Fagan, 266.

[15] Peter Shaw, "The Competitiveness Illusion," *National Review* 45 (January 18, 1993): 41-44.

[16] Wartella, 55.

[17] Rebecca B. Rubin and Elizabeth E. Graham, "Communication Correlates of College Success: An Exploratory Investigation," *Communication Education* 37 (January 1988): 14.

[18] Rebecca B. Rubin, Elizabeth E. Graham, and James T. Mignerey, "A Longitudinal Study of College Students' Communication Competence," *Communication Education* 39 (January 1990): 3.

[19] Mahaffey, 189.

[20] Ibid.

Chapter 2

REVIEW OF THE LITERATURE

INTRODUCTION

The issue of how to better teach communication skills is a difficult subject to clarify. Business leaders express their concern for the *products* of secondary and undergraduate educational institutions—particularly their lack of effective written and oral communication skills.[1] National surveys indicate most college graduates who do not major in communication take at most one college course emphasizing communication skills.[2] A former president of the International Communication Association suggested that the field of communication lacks intellectual unity.[3] A 1992 adult literacy survey indicated that 23 percent of the American population lack the basic skills[*] to be functionally literate in society.[4]

This is not a new problem. A 1974 report compiled for the Assistant Secretary of Defense for Manpower and Reserve Affairs cited government statistics that showed more than 20 million adults exist as functional illiterates and that 7 million of 45 million school

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[*] "basic skills," "literacy," and "communication skills" are used here interchangeably

children would eventually leave school with inadequate communication skills.[5] Despite these statistics the US economy has been growing at large rates since World War II.

While seemingly innumerable factors make up the environment known as the workplace, there is increased perception and corresponding emphasis that communication skills affect its output. Increasingly, researchers and communication experts emphasize the point that literacy, as a skill, is learned and developed throughout one's life. For example, both former President Bush and former Secretary of Labor Elizabeth Dole noted the connection between literacy and lifelong learning. Bush's 1990 Goals for Education included a goal of universal literacy by the year 2000, while Dole formed a commission to study basic skills as part of workforce preparation.[6] Media reporting of events such as these has provided evidence an increased perception of a literacy problem in the US.

The technical policy research methodology employed by this study demands that recommendations for decision makers must be based on an understanding of the policy issue.[7] The purpose of the review of literature is to define the issue of communication skills for the purposes of this study and review the current status of this issue in the workplace and across academic institutions. The concepts presented in this chapter will provide a framework for making policy recommendations for improving communication skills programs at AU. The framework for the literature review is split between workplace and academic communication issues because together they relate to the uniqueness of AU's position: an academic institution educating students within the larger framework of the Air Force workplace.

A WORKPLACE APPROACH TO COMMUNICATION SKILLS

Workplace communication skills (interchangeably referred to here as literacy) literature follows much of what has been done within academia—that the definition of literacy concerns adequacy of basic skills. Focusing on communication skills within the workplace, however, requires that the aforementioned definition of literacy be expanded. According to the US National Literacy Act of 1991, literacy is "an individual's ability to read, write, speak in English, and compute and solve problems at levels of proficiency necessary to *function on the job* and in society [in order] *to achieve one's goals*, and develop one's knowledge and *potential*" (emphasis added).[8] Combining together these ideas of functioning on the job, achieving one's goals, and developing potential relates to the concept of career progression.

While a review of the literature on workplace literacy finds plenty of argument for improving worker basic skills[9], the focus of this policy research is not on basic skills but on career skills. Empirical research concludes that virtually all Air Force members function beyond the basic definition of literacy.[10]

Since the literature shows that increasing communication skills training in the workplace increases career potential, this relationship deserves attention. If it is reasonable to assume that careerists are those people working within professions structured by a "ladder" of entry level, mid-level, and senior level positions, then career communication skills should be those the individual uses that directly affect progression through this career ladder. This definition is important for the purpose of this policy

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research because there is increasing evidence that the level of an individual's communication skills affects career progression. For example, the research of Faigley and Miller indicates "the ability of the individual to move readily into management is more often than not hampered by that individual's lack of written communication skills than by the understanding of the job itself."[11]

The importance of career communication skills competency is increasingly reinforced by corporate professionals such as Roger Flax, president of Motivational Systems Inc., developer of corporate training, who noted "that poor writing can shrink corporate profits and damage careers."[12] Additionally, Eunice N. Askov, Director for the Institute for the Study of Adult Literacy, notes that an increasingly high level of competence in communication skills is required for success in the workplace.[13] Finally, Phillips notes that the ability to communicate effectively is an asset to anyone's career.[14] The connection between communication skills and career progression is getting increased attention within the literature regarding corporate training, and as Nash noted, companies are providing their employees with increased structured guidance in this area[15].

Askov echoes the perception of difficulty in dealing with and defining literacy, saying that any definition should include concepts of a collection of skills rather than exist as a continuum. Definitions should include higher order thinking skills necessary for the modern workplace; they should show dependency on the context used and not show the issue as an end to itself, but rather a tool to solve social and economic problems.[16] In general, the literature universally notes a correlation between communication skills and career success. Individually, however, researchers and communication experts differ

somewhat on a universal definition of literacy; the definitions differ depending on the context of the application of literacy skills.

PROBLEMATIC COMMUNICATION SKILLS IN THE WORKPLACE— PERCEPTION OR REALITY

More detailed examination of the earlier definition of *career communication skills**

requires that evidence be separated from perception. The reasons are simple enough: training costs precious money, money removed from either corporate profits or military budgets. This money, therefore, should be spent on something measurable, something more significant than perception. The Carnegie Foundation reported that 8 million employees in US companies are trained each year at a cost of $40 billion dollars. Much of this corporate training is tied up in communication skills improvement. Some 66% of organizations with 50 or more employees are estimated to supply communication skills training for their employees.[17] This investment in training—communication skills and otherwise—is obviously significant.

And yet, not everyone agrees communication skills training is necessary. Research regarding the connection between literacy and the economy in Canada suggests there is little evidence literacy programs have a positive impact on employment, and that indeed some people seriously question the pervasive assumptions about the place of literacy in economic and individual development.[18] Studies in Great Britain concluded that the

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* the communication skills the individual uses in the workplace that directly effect progression through the stages of career

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attainment of functional literacy rarely produces outcomes such as job advancement.[19] However, the same report goes on to note literacy programs in Canada have frequently been tied to employment.[20] The bulk of the literature, like Phillips, notes that because of the importance of communication and the serious consequences of communication failures, an investment in communication education/training can realize a significant return.[21] Willer, Bell, and Andersen, in attempting to compare classroom communication skills curriculum content to actual business requirements, noted there is high correlation between textbook themes that noted important communications functions, and measurements on corporate personnel evaluation instruments.[22] This would at least suggest that courses emphasizing this correlation should affect employee behavior. Seibold, Kudsi, and Rude suggest that "cutting...communication training programs is troublesome because communication training enhances productivity based on the powerful intuitive link between communication and productivity."[23]

Considering alternatives to structured training, Speck notes that managers should be the front line mentors for junior employee communication training.[24] Instead of structuring formal training, Speck's approach uses a more one-on-one methodology. Regarding cost, Speck notes that appropriate managerial emphasis on negative costs of poor communication skills should be a motivator.

Research on the positive aspects of improving communication skills before entering the workplace is numerous. Zabava-Ford and Wolvin report research results which all echo at least the perception that individual investment in improving communication skills pays dividends within the work context.[25] Individuals who have attended communication

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skills training note improvement as well. Training & Development Journal, reporting on individual results of such training at Hewlett-Packard, quoted such reactions as, "you can see it in the way the trained engineers relate with the people they're talking with." Or "those who have taken the training give noticeably better presentations than those who haven't."[26] Hard evidence supporting perceptions that positively connect communication skills with career success is spotty. However, evidence supporting the perception that current skills are generally inadequate is pervasive. Speck cites numerous studies which conclude that most graduating business students do not communicate well.[27] Whether it's common sense or business sense, perception or reality, industry and government almost universally conclude that good employee communication skills are required of successful organizations, and therefore should be emphasized as being part of a successful individual career.

The successful career most often implies progression. The concept of career progression, however, implies trying to tie communication skills directly to worker productivity—an uneasy task. Regarding this effort Papa and Graham concluded that while studies have used a variety of methodologies and definitions of productivity and communication, the results have been confusing and contradictory. Some studies show a direct correlation between productivity and communication skills, while others show a negative or non-existent relationship.[28] But while their summary of research regarding the correlation highlights confusion and contradiction, they conclude that "industrial decision-makers believe that communication in organizations makes the essential difference in increasing productivity."[29]

Furthermore, how is a "successful career" defined? Does it necessarily imply advancement? For example, some anecdotal evidence found within the literature suggests that people can work a lifetime without improving communication skills at all. Ed Castor, a long-time UAW member and employee of General Motors, reported how he existed for over 25 years in the workplace with virtually non-existent basic literacy skills—he simply could not read or write. A talented man with a knack for leadership, Castor ironically found that as people pushed him toward career progression, he *was* able to make limited progress despite his total lack of communication skills. However, job hurdles he once scaled via bluffing and cleverness soon turned to impossible brick walls, and he cried out for—and received—help.[30] While extreme, this anecdote illustrates long-term jobs are possible without communication skills. However, it is reasonable to assume the *probability,* if not the certainty, of career progression is affected by communication skills ability.

While empirical evidence linking communication skills with career progression appears repeatedly within the literature, research that attempts to directly correlate communication skills training with career skills improvement does not. Such research suggests that the effect of communication training is measured four different ways: participant reaction, participant learning, participant behavior, and results of training over a longer term. Each of the four areas represents a time continuum, from near term training completion (reaction and learning) to short and long term effects on the job (behavior and results).[31] The research concluded that "both quantitative and qualitative data revealed the effectiveness of training at the reaction and learning levels; more importantly, there was

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significant behavioral change due to the training program."[32] Any program aimed at improving communication skills is apparently only as good as its evaluation of the results. As noted by Dunn-Rankin and Beil, "it is crucial that program evaluation be carefully planned before a workplace education program is begun."[33]

ISSUES OF ASSESSMENT AND CONTEXT WITHIN COMMUNICATION SKILLS TRAINING

Assessment

Researchers and communication skills experts alike are universal in their treatment of assessment for communication skills training programs. The literature notes the requirement for two types of assessments within workplace communication skills training programs: assessing the *need* for the program(s), and assessing the *results* of the program(s). Regarding the first, Dunn-Rankin and Beil concluded that "before developing and implementing a program, course designers must undertake some form of needs assessment."[34] Regarding the second, Rhoder and French exhort that "every program needs continual evaluation and a final evaluation so that ongoing decisions can be made about the curriculum, its effectiveness for particular students, and what they need next."[35] Askov notes that needs assessment must be planned to reflect workplace literacy goals.[36] As to the overall purpose of the needs assessment, Ley, Dauzat, and Lowery noted that the goal was to provide decision-makers with workplace literacy information to facilitate

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literacy programs and policies. In addition, the needs assessment links processes to results while emphasizing results.[37]

The issue of assessment becomes more difficult within the context of communication skills for career professionals. Assessment of communication skills for career professionals is much like the specifics of assessing needs and abilities of basic skills within students and hourly workers. However, the literature cites various reasons why the assessment process is difficult. Papa and Graham note that trainers and designers of communication skills training programs have difficulty gathering information about their prospective trainees, which precludes effective program design and evaluation.[38] Additionally, costs associated with design and implementation of such programs for managerial level personnel are high. Inadequate efforts here degrade program effectiveness, thus influencing participant reaction to, and synthesis of, the training.

Sometimes the goals of the program participants (for example, management, unions, instructors, literacy organizations) can differ enough to influence the assessment of the program's results.[39] Askov describes these assessment differences as a continuum, with learners and unions concerned more with informal qualitative measures on one end of it, while management and providers are concerned with formal quantitative measures on the other end.[40] Askov notes that certain key factors play into the assessment inputs of the participants. The key for the learner is prior subject knowledge, which is best assessed in individual interviews.[41] Unions are concerned with the workforce as a whole, and to meet this concern assessments could include attitude inventories of its participants regarding

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further education.[42] Management-centered assessments focus on specific gains which translate to improved job performance. This area of assessment is fraught with problems.[*]

Since Askov notes that management interests typically center on hard data, the most ready assessment of improvement is reading grade level. However, she cites research that corroborates the influence of prior subject knowledge on learning. Standardized reading tests don't measure the fact that such workers typically read several grades higher when reading familiar subject material.[43] Other assessment tools available in this context include curriculum-based assessments and criterion-referenced tests[44] although these tests don't often measure specific job-related vocabulary.[45] Regarding needs assessment factors of program providers, Askov notes that their preference for standardized tests[46] clashes with more statistically valid and reliable curriculum-based, criterion-referenced tests.[47]

Assessment of communication skills for managerial level participants should focus on developing individual needs. Papa and Graham propose the diagnostic assessment center concept, which uses multiple methods to structure assessment of participant skills under standardized conditions. Individual and group exercises demonstrate job-like situations and job-relevant behaviors such as decision making, action plan development, and employee interaction.[48] A key ingredient to this assessment center concept is extensive assessor training. Papa and Graham's research notes that prior reviews of similar assessment centers found that effective assessment requires trained evaluators functioning from a common frame of reference under standardized

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[*] note previous discussion concerning difficulties of measuring correlation between improved reading skills and job performance

conditions.[49] Despite research noting the universal importance of standardized assessment, Papa and Graham conclude that the application of assessment plus training does not conclusively result in improved post-training managerial performance.[50]

Context

Issues of program context focus on the content and environment of communication skills training. As far back as 16 years ago, Di Salvo noted that isolating communication skills training in relation to organizational context is receiving considerable attention.[51] The literature varies on specific orientation of the context of communication skills programs. Some programs emphasize the direct link between the employee's job responsibilities and the communication skills necessary to successfully function at that job. Others focus more on a holistic approach, preferring to teach communication skills in general, assuming that overall improvements here will reflect on the job.

Writing about training programs that occur in industries with joint union/management cooperation, Ferman noted that the purposes for training at 148 companies were split along two lines: traditional and nontraditional.[52] While the majority of training programs (n=79) were traditional (programs emphasizing specific job-related areas), the non-traditional programs (n=69) were increasingly emphasizing a holistic approach. Within nontraditional programs, communication skills improvement programs had the greatest frequency (24/69) among purposes listed. Additionally, they surmise that this increased emphasis may be due to literacy issues being put on the national agenda.

The aforementioned data is primarily concerned with training non-professional workers' communication skills. Regarding professional employees, the literature varies in opinion. For example, Phillips notes that while reading improvement courses are important, listening, speaking, and writing are more important for professionals. He notes that failure to listen is particularly destructive (and therefore important to emphasize in training) and that oral communication training can have the greatest impact because it consumes the most amount of time.[53] Conversely, Nash argues that reading is an effective and sometimes overlooked individual training method. He notes that for some people reading is the single best training method for acquiring both information and communication skills.[54]

Two problems with reading training are consistency and frequency. Any reading course can be good, but it is only good long-term when the skills are repeated consistently.[55] Zabava-Ford and Wolvin cite research showing varied course context is appropriate for varied career phases, varied careers themselves, and varied participants. The research of Sypher, Bostrom, and Seibert, which notes that effective listeners hold higher level positions and are promoted more often than individuals who are not competent listeners, was cited by Ford and Wolvin as one example.[56] This corroborates Phillips's findings, which specifically noted the importance of listening skills.[57]

Hewlett-Packard (HP) is one of numerous companies cited in the literature as being pleased with the results of formalized communication skills training. As a leading edge high tech firm, HP believes greater margins can be realized through its employees rather than its technology. Numerous gains noted by HP officials after enacting communication

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skills training among its engineers include confidence and quality taking off; information flowing more quickly and clearly; and climbing sales and sales productivity.[58]

Speck, however, in a departure from these findings based on formalized training, noted that responsibility for communication skills training begins with the employee's front-line manager.[59] His belief is that the mentoring should begin from the employee's first orientation and extend through work with actual document production, in the case of writing. Such mentoring would include "explaining the relationship between process and product, defining expectations about what constitutes written errors, and providing authorized references."[60] Other means of mentoring employee writing would include modeling acceptable writing (leading by example), working employees through collaborative projects, and emphasizing directness in communication.[61]

Barclay, Keene, Pinelli, and Kennedy argue yet another different approach—that academia and industry should work hand-in-hand to define communication skills training programs needed for employment.[62] In further arguing that technical communicators'[63] needs and practices in the workplace are often not well understood, Barclay et al. argue academia should better understand workplace culture, organization, and communication.[64] Using the aerospace industry as an example, Barclay et al. illustrate the importance of emphasizing communication to enhance innovation and productivity and maximize the inclusion of recent technological developments into the R&D process. Meeting such objectives economically depends largely on the ability of engineers and scientists to acquire, process, and communicate technical information.[65] Finally, Barclay et al. would focus more on the workplace within communication skills training by

involving faculty with an industry background, using academia/industry advisory boards, and calling upon professional contacts with practitioners.[66]

Regarding managerial performance, references cited by Papa and Graham note substantial evidence that communication is the activity most critical to managerial performance.[67] Among the literature, Papa and Graham stand out as two researchers who tried to specifically tie together the connection between communication skills training and improved managerial performance. Their research centered on developing a test group of managers to measure effectiveness of communication skills training upon managerial performance compared to a control group. Training was heavily context based. That is, the assessments were based on twelve behavioral dimensions ranging from integrity, to time sensitivity and control, to written and non-written communication.[68] The training content included conflict management; listening; and nonverbal, verbal, and written communication, among other subjects.[69] The two groups were compared with managerial performance evaluations as well as with evaluations by subordinate workers. The group with the training program performed higher, according to Papa and Graham, because careful assessment led to more specific training; the training emphasis was on transfer of learned skills to the workplace; and most notably, because the training *included substantial emphasis on communication skills.* This was evidenced by citations within the literature which noted the aforementioned reference regarding communication as the activity most critical to managerial performance.[70] Regarding long-term effectiveness of such training, Papa and Graham's work showed that when the performance of subjects was measured one to two years after completion of training,

there was a significant increase in perceived performance over time. They conclude, however, that future research should examine long-term effects of communication programs on managerial performance.[71]

COMMUNICATION SKILLS TRAINING WITHIN THE AIR FORCE— GENERAL ISSUES

The Air Force has been concerned enough about literacy and its effects to address the issue repeatedly. In 1977 Huff, Sticht, and Joyner noted that "the Air Force has defined its literacy problem in terms of the gap between the reading demands of training and job materials and the reading skills possessed by the personnel who use those written materials."[72] The fact that the aforementioned researchers used the term "problem" denotes that the Air Force has been struggling with literacy issues despite researchers' assertions that problems with *basic skills* do not exist. Perhaps the relatively recent Congressional mandate that the services must annually report reading grade levels (RGL) of military recruits in order for Congress to assess recruit quality has shifted Air Force emphasis in this direction.[73] Besides the Congressional mandate, the Air Force uses RGL as a measure of force quality trends when compared over time. RGL is also used to compare airmen's abilities against training materials and technical materials used in the field. It is instructive to note that Faneuff's research reflects literature that illustrates a tested RGL corresponds only to how well that individual scored on a standardized test compared to others in that grade level. An individual scored at an RGL of 9.0 for example would not necessarily be able to read 9th grade educational material.[74]

Since 1946 over 120 studies and assessments have been conducted on Air Force PME.[75] In the 1980s all recruits going through Basic Military Training School (BMTS) were administered the Air Force Reading Abilities Test (AFRATS). If any recruit failed to achieve an equivalent ninth-grade comprehension level (9.0)[76] he/she was entered into a remedial 40-hour reading course designed by Educational Developmental Laboratories, Inc. Upon course completion these recruits were tested again and most improved their score. As long as these remedial recruits showed progress they were allowed to complete BMTS and go on to their next assignment. If they did not show progress they were discharged from the Air Force. According to Mr. James M. Wilbourn,[77] who handles the Evaluation/Testing Program for BMTS, this program was dropped in 1991 due to lack of money and the fact that the percentage of recruits needing remedial reading training had dropped to about 1 percent.

When the requirement to test all BMTS recruits was dropped, random sample testing began. Mr. Wilbourn stated he rarely sees someone who tests below an equivalent ninth grade level on the AFRATS. The average grade level during random sample testing has been approximately 11.2, and those who do score below 9.0 are simply given a letter to take to their next base's education office to inquire what services they could obtain to help them improve their reading skills.

The use of achievement testing for predicting future behaviors is common in a variety of institutions. The literature documents a long history of standardized testing. Reading tests have traditionally been part of standardized testing for many years. Numerous studies have researched the correlation between reading capability and

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predictive student ability, with generally positive conclusions.[78] The Nelson-Denny Reading Test, for example, has been shown to be positively correlated to student performance for students at the SNCOA.[79] Hunter notes that "[while Nelson-Denny grade equivalents] do not necessarily indicate within-grade standing or relative performance, local norms at the…SNCOA using grade equivalents have been successful, for over ten years, in identifying an academically 'at-risk' group within the student body."[80]

Despite the generally positive correlations between commercially available reading tests and predictive student behavior, the Air Force was not able to standardize testing based on one test. In fact, the Air Force used as many as 12 different tests because of variances noted between test results and the costs associated with procurement. Therefore, the Air Force developed its own test in 1982, the Air Force Reading Abilities Test (AFRAT).[81] In spite of their differences, reading tests are reliable predictors of student ability.

Just as civilian industry has struggled to correlate standardized reading tests with predictive job behaviors, the Air Force too has reached similar conclusions during past studies of communication skills influence on service members' job performance. Ciuffetelli notes research on this correlation is not generally found within the literature.[82] Regarding job performance and effective reading skills, McGoff and Harding concluded in 1974 that "it has been very difficult to objectively demonstrate a direct effect of poor reading skills upon job performance, despite the availability of considerable data indicating a number of indirect or contributory relationships."[83] But McGoff and Harding also concluded that "it is reasonable to assume that with the current complexity and the

probable increases in technology that future successful performance...will require reasonable high levels of literacy...even if job data is reduced in complexity and reading comprehension level."[84] Air Force doctrine itself strongly implies a connection between communication skill, education, and job performance: "success in war depends at least as much on intellectual superiority as it does on numerical and technological superiority."[85]

WHAT ARE COMMUNICATION SKILLS?—AN ACADEMIC APPROACH

Public law 95-561, the 1978 Amendments to the Elementary/Secondary Education Act, identifies speaking, listening, reading, writing, and mathematics as basic skills.[86] Although the term "basic skill" has moved from reform buzzword to cliché, it does imply knowledge and competencies that are crucial to becoming a functional, contributing member of society. While research in "communication competence" is still in its infancy, there is a tradition of concern for improving the basic communication skills of individuals.[87]

The back-to-basics approach to communication skills has led to a confusion between communication *competence* and communication *skill*. Although they both have a bearing on performance behavior, there is a distinct difference that must be understood. Competence is the "ability of an individual to demonstrate knowledge of the appropriate communicative behavior in a given situation."[88] Skill is "the ability of an individual to perform appropriate communicative behavior in a given situation."[89] It is important to stress that by defining communication as a skill the question is not whether a person

always demonstrates particular behaviors, but rather a person has the ability to perform the appropriate behaviors.

The National Adult Literacy Survey of 1992 was designed to provide accurate and detailed information on the English literacy skills of America's adults.[90] Literacy is another term that is often used synonymously with communication skill. The survey, sponsored by the department of Education and administered by Educational Testing Service, defined literacy as "using printed and written information to function in society, to achieve one's goals and to develop one's knowledge potential."[91] Instead of focusing on whether adults were literate or not, the survey attempted to assess performance across a wide range of tasks to reflect the kinds of material demands encountered in daily life. The data does not reflect an either-or situation, but rather reports its results on a continuum. Twenty-three percent of the adults scored at level one, which means their literacy skills range from having practically no reading, writing, or quantitative skills to being able to locate the time or place of a meeting listed on a simple form. Only 21 percent tested at levels four and five which means they were able to integrate and synthesize information from complex or lengthy passages. Aside from the startling results, the important conclusion drawn from this data is the requirement to determine what is needed to function *before* measuring to determine if individuals can perform the functions at the appropriate levels. This survey validates the requirement to conduct a needs assessment from a job performance perspective in order to better educate individuals on the necessary skills.

There is evidence to suggest that a contributing factor in lower communication skills is an over-emphasis on memorizing—not learning.[92] Kintsch suggests there is a distinct difference between the two and instructors tend to focus on memorization, not learning. Learning requires a deep understanding of subject matter so that the individual can use the information creatively in new situations. Memorization implies using information for the sake of reproduction at a later time in the same basic form. Learning has taken place when an individual can infer new facts from a knowledge set or use the knowledge along with previous information to solve a problem by integrating information. Kintsch suggests that instructors emphasize "remembering" text and information without allowing "learning" to take place. This observation suggests that students who can *recite* the steps in a communication process may not actually be able to perform the process outside of its original context.

Huff and Kline suggest teaching communication skills as a process, particularly writing.[93] Their process consists of rehearsing, composing, valuing, and judging your own and others' work. This process might also be applied to preparing an oral presentation. They argue that both musicians and athletes rehearse their skills through daily activities that are manifested in a performance. However, for rehearsal to be effective it must be thoughtfully planned. Contemporary composing theories and research suggest that writing should be taught as a process and not a product. This suggests that evaluation and feedback should be made at various steps in the process and not simply after the final product is produced. Finally, students must learn to value and judge their work and the work of others by blending a formative and summative process of

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evaluation. The valuing and judging phase of the process is where the student truly learns the process and goes beyond the memorizing suggested by Kintsch.

Vangelisti and Daly provide evidence that suggest oral communication skills are not being learned—perhaps they are only memorized.[94] They obtained a nationally representative sample of 21-25 year olds and determined that 20 percent of that population did not possess speaking proficiency skills. Data suggested that college graduates did not significantly differ in performance from non-graduates. This tends to support Kintsch's observations concerning memorizing versus learning: college graduates may have a difficult time applying concepts they merely memorized.

Vangelisti and Daly's study also suggested several variables that are linked to speaking ability.[95] Data suggests that speaking ability is positively related to reading ability, age, and community involvement—particularly leadership related activities. Although causal relationships were not established, the study does provide evidence of a relationship among communication skill variables and predictors of speaking performance.

Communication skills competence is linked to success in academic endeavors. Rubin and Graham conducted a two-year study of college students that revealed a link between communication skill competence (rated using the Communication Competency Assessment Instrument, CCAI)[96] and college performance (based on grade point average).[97] In addition, they also determined a link between high school communication competence ratings (CCAI) and college grade point averages. Their study also revealed the lack of validity in self-report measures for determining communication competence.

A similar study in 1990 also provided support for a link between communication skill competency and college success.[98] This longitudinal study also suggested that experiences in leadership positions were also significantly related to grade point average and scores of communication competence as measured on the CCAI. Zabava-Ford and Wolvin's research further reinforces this relationship, noting that students may choose to speak up in class more often if they perceive themselves to be competent in oral communication. Conversely, students may avoid working in groups because of perceived incompetence in group interaction skills.[99] In either case, this lack of participation can negatively affect learning outcomes.

ASSESSMENT OF COMMUNICATION SKILLS WITHIN ACADEMIA

The 1980's were marked by increased emphasis on the quality of education—higher education as well as secondary programs. Numerous reports and commissions criticized American schools for not producing educated adults in contrast to other nations around the world—including some developing nations. One frequent recommendation for improvement called for institutions to develop assessments that would validate learning indeed took place.

In May of 1990, Ellen Hay conducted a survey to assess the current status of assessment programs in the curriculum area of communication skills.[100] Many states and regional accrediting agencies have placed requirements on colleges and universities to implement a more systematic assessment process. However, for communication educators this mandate poses special challenges. Communication is a complex,

context-dependent process that requires attention to knowledge, skills, and attitudes that cannot always be measured by traditional evaluation techniques. In fact, most schools responding to the survey indicated they simply used completion of certain courses to measure if students were learning.[101] In addition, only 14 percent of the schools attempted to measure communication skills at all.[102]

In an effort to ameliorate this problem the Speech Communication Association took on this issue in 1990.[103] A working group of faculty and administrators developed nine principles to provide guidance for those departments involved with assessment. Of the nine principles, five are directly related to this study.[104] First, assessment should be based on goals that are operationalized. Second, the overall process should be aimed at improving the communication skills programs. Third, the assessment program should recognize the competing demands of constituencies such as other departments and future employers of the students. Fourth, the process should be based on multiple methods of data collection. Fifth, the assessment program should enhance the learning process.

In spite of the grim outlook on the assessment process, there are success stories. Aitken and Neer describe an approach to assessment that led to a competency-based curriculum at the University of Missouri at Kansas City.[105] Their main assumption in developing their program was that assessment should improve student learning—a similar observation of the Speech Communication Association's recommendations. Aitken and Neer also concurred that multiple methods of collection should be used and effective operationalization of goals and objectives are critical. In addition, they also

recommended curriculum design should be the end result of the process and faculty should be collecting and analyzing the data.

Aitken and Neer also identified twelve core competencies of communication that they believe are critical to effective communication.[106] These competencies are interpersonal competence, critical thinking, language competence, leadership competence, reading, research, oral communication skill, cultural appreciation, writing, decision making, theoretical competence, and ethical and philosophical competence. These competencies reflect a position that communication is more than simply being proficient at sending or receiving a message. For example, the leadership competency encompasses problem solving, conflict management, and group maintenance behaviors. These competencies also suggest communication is a subject that cuts across many curriculum areas—further supporting an across-the-curriculum approach.

No matter how you define communication skills and where you place it in the curriculum, the issue of defining standards of assessment remains elusive. As McCroskey suggests, you need to decide if you are interested in communication competence, or communication performance.[107] Evaluating or assessing competence involves determining abilities, not judging a *specific* performance. However, he does suggest that evaluating abilities is best accomplished by objectively evaluating a performance, whether written or oral. The assessment problem is further exacerbated by the fact there is no consensus on standards for subjects considered to be basic skills in our country.[108]

Although the literature does not provide a *best* way to assess communication skills, the literature does provide many approaches to build upon. Rubin, Welch, and Buerkel

examined the role of standardized, performance-based assessment measures in high school students[109] using the CCAI High School Edition. They argue that learning implies an increase in skills, knowledge or a combination of both, and only through performance-based evaluation can you determine the outcome. The instrument assesses students in fifteen areas to include pronunciation, clarity, expressing and defending ideas, describing another's view, and describing differences. The areas are assessed by a trained evaluator who uses a series of questions and tasks requiring student responses and performance. The authors of the instrument are quick to point out that reliable scoring requires trained evaluators who understand the specifics in the manual that describe each skill area in detail.

However, Carlson and Smith-Howell suggest that speeches can be evaluated reliably, and with a significant degree of validity, using a variety of forms and using raters with little training or experience.[110] Although they did determine that rater experience and training did not significantly impact the reliability or validity of the evaluations, they do not suggest that teachers can teach communication skills without appropriate training and educational experiences. Their findings do suggest that individuals with varying backgrounds can detect the presence or absence of objective criteria in an oral presentation.

Whether an institution uses highly trained evaluators or not, the problem of what and how to evaluate still exists. Backlund et al. summarized a series of recommendations to the Massachusetts Department of Education on how to evaluate communication skills in secondary and higher education.[111] Specifically, they recommended that institutions

should evaluate students in naturalistic rather than contrived situations. For example, asking for or giving straightforward information such as directions to a particular room. Assessment should be made by teachers in the classroom during the entire school period, not simply during a prepared presentation. The assessment instrument should be a rating scale with features such as delivery, language, organization, and purpose. Each category should be evaluated where appropriate in each situation. However, only teachers who have been trained in using, scoring, and interpreting the rating scale should be responsible for assessment of students. The instrument should be externally verified by outside sources such as another school or business who will potentially hire the students and has a vested interest in their future. The instrument should also be tested for validity to determine if the competencies being measured are subject to development through educational experiences. This step seems critical in that the institution needs to be measuring what is being taught and what they are capable of teaching to the students. However, as Aitken and Neer suggest, what is being taught should be based on the needs of the student.[112]

TEACHING WRITTEN COMMUNICATION WITHIN ACADEMIA

Because writing underlies nearly every subject in school, people wrongly assume that instruction in writing is elementary[113]—the basic instruction pattern was established at least 2500 years ago and can be traced back to Aristotle.[114] This illogical conclusion leads administrators, faculty, and students to believe that nothing new needs to be learned about teaching writing.

College students vary in their abilities to communicate making mass instruction often wasteful. However, tutoring and small group instruction also miss the mark because of their appearance to be merely "remedial" or "covering what should have already been learned before." [115] Teachers who work with these students are sometimes thought of as nothing more than social workers and an unnecessary expense.

Even though there is little consensus in terms of the solution to improving communication skills, almost everyone gives at least lip service to the inherent importance of writing skills. Part of the difficulty in arriving at a consensus is the misunderstanding of the term writing itself. [116] Even though research is limited, one only needs to look at the local bookstore or library to realize there is no shortage on materials labeled as "improving writing." However, many of these books and publications turn out to be nothing more than term paper writing guides, preparing manuscripts, or resume writing. The end result at the university level is a writing program that usually develops organically as needs appear; not planned and coordinated within the overall curriculum, but casually coordinated and inherited.

The available literature does appear to have consensus on one issue—written language should be regarded as an instrument of learning appropriate for any subject area. Connolly and Vilardi compiled a book that reports on new methods in the teaching and administration of writing programs at the university level.[117] Although their approach did not attempt to empirically demonstrate the effectiveness of these programs, they did provide an overview of the new programs being implemented across the United States.

An analysis of the various programs described revealed several trends that are useful in determining the status of writing programs at the university level. [118] Writing is seen as a process, a way to learn that is interactive across the curriculum. Many programs highlight that every teacher is also a communication skills teacher, but few have the training to provide the instructional aspects of communication skills in their discipline. Core writing program courses should develop the basic mechanical skills and focus on writing for a specific audience to meet a specific purpose. The remainder of writing skills development takes place in other courses by showing students how to apply writing skills across different academic disciplines. This ensures actual learning takes place, not simply memorization of mechanics.

Many programs cited a requirement of writing (communication) skills as part of the requirements for graduation. Brown University's program uses all faculty members, not just the communication department, to monitor the development of skills. [119] A similar program at the University of Washington accomplishes this task by linking writing assignments to other course lectures. [120]

The programs cited by Connolly and Vilardi also highlighted the need to have "remedial" programs, but suggest several approaches to accomplishing this task. George Mason University's Writing Center provides specialized assistance to students with difficulties on a walk-in basis. [121] Once enrolled at the tutorial center, students must write every day in a journal-type format with feedback from fellow students and faculty. This idea of treating writing as a process with feedback throughout is similar to the core elements approach suggested by Huff and Kline. [122] They also suggest using a diary or

journal format to build skills throughout the entire process of composing. They suggest that "mere frequency of writing does not correlate to writing improvements unless that writing is responded to by a critical reader."[123]

A clear message from the review of literature is the paramount importance of faculty development. Connolly and Vilardi's review of college writing programs[124] and White's Developing Successful College Writing Programs[125] as well as many other authors, stress the importance of developing faculty to provide the critical feedback necessary for proper skill development. However, the type of instructor development does vary from Cornell University's[126] requirement for a teaching English course, to Brown University's[127] selection and training of "student fellows" who provide instruction and feedback. As Carlson and Smith-Howell[128] suggested, although rater experience and training do not impact the reliability of the objective measurement, there is still a requirement for a trained instructor to provide instruction through effective feedback.

The literature suggests there are six basic approaches to writing instruction. They are the literature approach, peer workshop approach, individualized writing lab approach, text-based rhetoric approach, basic skills approach, and the service course approach.[129] The literature approach is an analysis of literature that aims at teaching good grammar and expression through exploring the great works. Its weakness lies in there being no clear link between being exposed to proper prose and the development of skills. However, this approach is used extensively throughout many universities, probably due more to tradition than scientific proof of its capabilities.

The peer workshop approach, as cited at Brown University[130] and George Mason University,[131] expands the audience for student writing beyond the teacher. They claim this motivates students to produce better work because of peer evaluation and scrutiny, however, they do not provide any scientific evidence to support their claim. There is also the claim that this approach places teachers in more of a coaching role which seems to be less threatening to students.[132] Critics of this approach also cite a lack of content within the course which limits the exposure to new and creative ideas that push writing beyond a mechanical skill toward more of a learning tool.

At first glance, the individualized writing lab approach seems to be very similar in design to the peer workshop. However, the individualized approach is more of a one-on-one tutor to student approach. Its essential strength depends on steady in-class writing on a specific topic, with the teaching taking place as an editorial coach.[133] This approach is being used successfully at Beaver College[134] and at George Mason university's Tutorial Center.[135] This approach incorporates the writing process model methodology suggested by Huff and Kline.[136]

The text-based rhetoric approach relies heavily on rhetoric texts that provide models of writing style used to generate class discussion in the form of analyzing of prose models. Students spend a great deal of time reading and analyzing the style of others and learn from the increasingly sophisticated examples.[137] However, this approach requires careful selection of the texts to support the teaching of the various writing skills. Its shortcoming is in the focus more on style than content and how to arrive at a final product

from a basic idea. There is merit, however, in the close relationship between reading and writing required in this approach.

The basic skills approach emphasizes writing as a "correct" expression and seeks to establish the fundamentals of sentence and paragraph structure in students.[138] Despite twenty-five years of research demonstrating the futility of such an approach to the teaching of writing at any level, it continues to flourish at the college level in the form of remedial centers. This approach depends heavily on workbooks and handbooks to teach "the basics." Many of the workshops and tutorial centers described by Connolly and Vilardi use elements of this approach.[139] This approach seems to concentrate on the mechanics while ignoring the content of the message and its ability to communicate effectively.

The service course approach regards college composition as a general requirement whose principal purpose is to prepare students for writing in their other classes.[140] Writing assignments focus on the term or research paper as the end product and skill. This approach's strength lies in its practical orientation since students know they will be required to write term papers for other courses. However, as a method of teaching critical thinking skills that should develop from such a process this method falls short. True research requires critical thinking on a foundation of knowledge, a foundation that students in typical writing courses do not possess. Therefore, the process normally will result in superficial analysis with a heavy reliance on quotations as the primary means of support. However, the use of a "reaction paper" does help develop skills in writing, analysis, and synthesis.[141] Students are required to "react" to a reading or take a position

on an issue and defend it with a logically, supported argument. Using several such assignments during the course can provide several feedback opportunities and enable the learning process to more effectively develop higher level skills in critical thinking and analysis.

TEACHING ORAL COMMUNICATION WITHIN ACADEMIA

A nationwide survey of communication programs revealed the discipline is in a state of confusion.[142] Although the US federal government identified speech as a basic skill, the discipline has yet to come to consensus on standards or even the definition of speech communication. However, there does appear to be consensus on an approach to teaching oral communication—Oral Communication Across-the-Curriculum. This relatively new approach for oral communication grew from the language across-the-curriculum approach used in Great Britain since the 1960's.[143] The rationale for this approach is based on observations by business leaders who claim college students do not possess adequate written or oral skills. This approach postulates these skills are best developed by emphasizing them in a variety of courses throughout the curriculum.

The oldest on-going oral communication across-the-curriculum program began at Central College, Iowa in 1976.[144] The college designated several courses throughout the college that would provide additional instruction in communication skills. Faculty designated to teach these courses outside of the communication department were required to receive summer workshop training in how to incorporate oral communication in their courses and how to provide developmental feedback to students. A 3-year study of

participants indicated that 74 percent reported significant improvement in their communication skills and 90 percent indicated a moderate or intense desire to receive more instruction. Similar results were achieved at other colleges including the University of New Mexico and Saint Mary-of-the-Woods College in Indiana.[145]

Although these early programs differed in some ways, they did share several important characteristics.[146] All these programs provided faculty training in oral communication for non-speech faculty, offered laboratory assistance for those seeking additional help, and were modeled after writing across-the-curriculum programs common in this country. An important observation by Cronin and Glenn suggests that the most critical factor in program success is the proper training of non-speech communication faculty to develop and implement the program.[147]

The oral communication skills across-the-curriculum approach still receives a great deal of criticism from experts in the field, however, there are many successful programs. One such success is at the University of Colorado, Colorado Springs.[148] Their program is unique in its strategy of identifying the needs of students before developing the program. However, their needs assessment targeted the faculty and minority students, leaving out one critical data point identified by other studies—employers. The goal of the University of Colorado's assessment was to determine the current skills of their students, not the desired end state. It seems critical that both should be considered in order to develop a successful program.

The University of Colorado depends a great deal on an assessment center to provide data on student requirements and outcome assessment.[149] The center uses many existing

instruments with reported reliability and validity such as the CCAI, and the Personal Report of Communication Apprehension. The initial testing of students identifies those requiring "remedial" help and assists instructors in providing appropriate feedback based on individual needs. In addition, the assessment center provides feedback on the impact of its own programs as well as the overall performance of the entire communication skills across-the-curriculum program.

A common thread between both oral and written communication skills across-the-curriculum literature is the issue of faculty training. Many faculty lack the expertise to provide effective instruction in the area of communication skills, whether oral or written. Cronin and Grice present two models that can provide this critical training that enables across-the-curriculum programs.[150] They suggest that many non-speech faculty lack adequate instruction in oral communication theory and practice which creates a major obstacle to developing effective oral across-the-curriculum programs.

The first model presented by Cronin and Grice is the training model.[151] Although the depth and breadth of training may vary, this approach attempts to provide instruction to non-speech faculty in the theory and skills necessary to conduct oral communication skills activities in their classrooms. Workshops, seminars and retreats are conducted to provide this critical instruction so they can conduct their classes without direct involvement from the communication department.

The second model attempts to ameliorate the problem of limited faculty expertise through a consulting/training (CONTRA) program.[152] This approach provides limited faculty training up front and augments this with the provisions for consultative expertise

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from the communication department. This is similar to an arrangement used at AU in the early 1960's.[153] A separate Communication Techniques Division, composed of seven officers, was charged with the responsibility of planning and presenting programs of instruction in communicative skills for the schools at AU. In addition, they provided overall professional advice to the schools who were charged with executing the bulk of the communication curriculum.

Both approaches to providing faculty training have their advantages and disadvantages.[154] Both models provide some instruction to faculty in the designing, implementing and evaluating of oral communication activities in the classroom. Choice of a particular model depends on the situation and the philosophy of the school in terms of its use of communication experts. The training model offers a wider dissemination of training and expertise without placing a large strain on the communication faculty. However, even after receiving the training, non-speech faculty are not completely competent in the areas of design, implementation or evaluation, to be left on their own. In addition, the training model may give the impression that communication instruction is devoid of content and little academic preparation is required to effectively develop skills in students.

Unlike the training model, CONTRA ensures that students receive some limited instruction from a fully qualified communication skills expert.[155] CONTRA also provides the opportunity for each course instructor to receive expertise in the planning, implementation, and evaluation of communication skills activities. This approach may also stimulate collaborative multi-disciplinary research as a result of the team approach.

However, the major drawback of the CONTRA model is the extensive reliance on communication faculty to fully implement this program.

One possible way to alleviate some of the stress on the communication skills faculty is through the use of video technology.[156] Instructors used interactive video sessions to help augment instruction of communication skills in their non-speech classes. Results indicate that video technology can be beneficial at developing key ideas, critical thinking, and listening skills.

Using video technology is nothing new in the oral communication skills discipline. Quigley and Nyquist suggest that research results are conclusive that using video feedback is effective if used in conjunction with an instructor's constructive comments.[157] Their research points out that students are more likely to apply critical feedback when they are given the opportunity to take on the role of observer which is possible through video playback. Playback also enables the instructor to take on the coaching role while the student observes their performance.

Notes

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[8] Carol A. Rhoder and Joyce N. French, "Workplace Literacy: From Survival To Empowerment And Human Development," *Journal of Reading* 38 (October 1994): 110-20.

[9] For examples, see the works of Waterhouse and Deakin; Malicky and Norman; Ferman; Dunn-Rankin and Beil; Askov; and Washburn and McClure-Franklin.

[10] For examples, see the work of Faneuff; and Huff, Sticht, and Joyner.

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[19] Grace V. Malicky and Charles A. Norman, "Participation in Adult Literacy Programs and Employment," *Journal of Reading* 38 (October 1994): 122.

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[30] Edward L. Castor, "Reading, Writing, and Cover-Ups," *Across the Board* 28 (September 1991): 27-29.

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[32] Ibid., 128.

[33] Patricia Dunn-Rankin and Drake Beil, "A Primer for Workplace Literacy Programs," *Training and Development Journal* 44 (August 1990): 45.

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[39] Eunice N. Askov, "Approaches to Assessment in Workplace Literacy Programs: Meeting the Needs of all the Clients," *Journal of Reading* 36 (April 1993): 550.

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[41] Ibid.

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[44] Tests such as CASAS (Comprehensive Adult Student Assessment System) tie together workplace competencies to criterion-referenced tests that have been validated and checked for reliability, thus avoiding potential legal problems.

[45] Askov, "Approaches to assessment ...," 552.

[46] The preference for standardized tests comes from wanting to compare programs to one another.

[47] Askov, "Approaches to assessment ...," 553.

[48] Papa and Graham, 369.

[49] Ibid., 370.

[50] Ibid.

[51] Vincent S. Di Salvo, "A Summary of Current Research Identifying Communication Skills in Various Organizational Contexts," *Communication Education* 29 (July 1980): 283.

[52] Louis A. Ferman, ed., *Joint Training Programs: A Union-Management Approach to Preparing Workers for the Future* (Ithaca, NY: ILR Press, 1991), 16.

[53] Phillips, 166.

[54] Nash, 92.

[55] Phillips, 167.

[56] Zabava-Ford and Wolvin, 217.

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[58] "Teaching Engineers to Talk," 10.

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[60] Ibid., 80.

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[63] Technical communicators in this context are professional writers employed within the workplace to produce specific documentation such as technical manuals, procedures, and other engineering and marketing documentation. While Barclay et al. are addressing the training of technical communicators, their comments are applied here as being universal across the spectrum of writing needs within industry.

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[65] Ibid., 327.

[66] Ibid., 333.

[67] Papa and Graham, 381.

[68] Ibid., 375.

[69] Ibid., 376.

[70] Ibid., 381.

[71] Ibid., 382.

[72] Kent H. Huff, Thomas G. Sticht, and John N. Joyner, *A Job-Oriented Reading Program for the Air Force,* AFHRL-TR-77-34 (Brooks AFB, Tex.: Air Force Systems Command, 1977), 1.

[73] 1Lt Robert S. Faneuff, *1988 Reading Grade Level Data for Air Force Specialties,* AFHRL-TP-90-16 (Brooks AFB, Tex.: Air Force Systems Command, 1990), 2.

[74] Ibid., 1.

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[75] Richard L. Davis and Frank P. Donnini, *Professional Military Education for Air Force Officers: Comments and Criticisms* (Maxwell AFB, AL: Air University Press, 1991).

[76] Most types of reading grade level assessment testing (Flesch-Kincaid, Coleman-Liau, Bormuth, etc.) use the scale corresponding to the standardized US primary, secondary, and post-secondary educational grade levels, as well as the months within that grade level. For example, a level of 9.0 is equivalent to the reading abilities of a student just entering ninth grade. Grade level 11.3 would denote the equivalency of a student in the third month of the eleventh grade; the ".x" digit is a number which corresponds to the month progression through that grade level. All grade level indices are computed with mathematical formulas based on number of words, number of word syllables, and number of sentences. Opinions vary, but the consensus is that there is no single accurate index.

[77] James M. Wilbourn, Research Psychologist, 737th Training Group, Lackland AFB, Texas, telephone interview with author, 23 January 1996.

[78] Richard Ciuffetelli, "An Examination of the Usefulness of Administering the United States Air Force Reading Abilities Test at United States Air Force Airman Leadership Schools" (Montgomery, AL: Faulkner University, April 24, 1995), 14.

[79] Ibid., 17.

[80] Billy Hunter, "A Preliminary Look at the Relationship Between Formative and summative Evaluation for Academically At-Risk Students in a Professional Military Education (PME) Environment" (Maxwell AFB, AL: College of Enlisted Professional Military Education, Air University, Air Education and Training Command, December 1995), 4.

[81] Ciuffetelli, 20.

[82] Ibid.

[83] McGoff and Harding, 6.

[84] Ibid., 8.

[85] AFM 1-1, *Basic Aerospace Doctrine of the United States Air Force*, vol. 1, March 1992, 2.

[86] Marshall G. Most, "Certification for Speech Communication Teachers: A Nationwide Survey," *Communication Education* 43 (July 1994): 195.

[87] James C. McCroskey, "Communication Competence and Performance: A Research and Pedagogical Perspective," *Communication Education* 31 (January 1982): 1-2.

[88] Ibid., 5.

[89] Ibid.

[90] Fagan, 260.

[91] Ibid., 262.

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[92] Walter Kintsch, "Text Comprehension, Memory, and Learning," *American Psychologist* 49 (April 1994): 294.

[93] Roland Huff and Charles R. Kline, II, *The Contemporary Writing Curriculum* (New York: Teachers College Press, Columbia University, 1987), 1-47.

[94] Anita L. Vangelisti and John A. Daly, "Correlates of Speaking Skills in the United States: A National Assessment," *Communication Education* 38 (April 1989): 132.

[95] Ibid., 141.

[96] The CCAI is a valid and reliable instrument that measures communication competence. The 19-item instrument was designed to measure actual communication behaviors that encompass the notion of appropriateness and effectiveness. Each evaluation takes approximately 30 minutes to administer by a trained evaluator. The testing requires the participant to prepare and give a 3-minute extemporaneous speech; watch a videotaped class lecture and answer comprehension questions; and participants are also asked to respond to questions concerning experiences in academic environments. Further information concerning the validity and reliability of the CCAI can be found in Rebecca B. Rubin, "The Validity of the CCAI," *Communication Monographs* 52 (June 1985): 173-185 or Rebecca B. Rubin, "Assessing Speaking and Listening Competence at the College Level: The Communication Competency Assessment Instrument," Communication Education 31 (January 1982): 19-32.

[97] Rebecca B. Rubin and Elizabeth E. Graham, "Communication Correlates of College Success: An Exploratory Investigation," *Communication Education* 37 (January 1988): 21.

[98] Rebecca B. Rubin, Elizabeth E. Graham, and James T. Mignerey, "A Longitudinal Study of College Students' Communication Competence," *Communication Education* 39 (January 1990): 1-2.

[99] Zabava-Ford and Wolvin, 216.

[100] Ellen A. Hay, "A National Survey of Assessment Trends in Communication Departments," *Communication Education* 41 (July 1992): 247.

[101] Ibid.

[102] Ibid., 251.

[103] Ibid., 248.

[104] The other four principles are: provide data relevant to student knowledge, skills, and attitudes; externally validate instruments; data collection, storage, and interpretation should be in the communication department; and assessment is the responsibility of every faculty member. These principles underscore that assessment is a charge to faculty to use multiple means for determining if the unique goals and objectives of the institution are being met.

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[105] Joan E. Aitken and Michael Neer, "A Faculty Program of Assessment for a College Level Competency-Based Communication Core Curriculum," *Communication Education* 41 (July 1992): 270.

[106] Ibid., 273.

[107] McCroskey, 5.

[108] Most, 201.

[109] Rebecca B. Rubin, S. A. Welch, and Rick Buerkel, "Performance-Based Assessment of High School Speech Instruction," *Communication Education* 44 (January 1995): 30.

[110] Robert E. Carlson and Deborah Smith-Howell, "Classroom Public Speaking Assessment: Reliability and Validity of Selected Evaluation Instruments," *Communication Education* 44 (April 1995): 93.

[111] Philip M. Backlund, Kenneth L. Brown, Joanne Gurry, and Fred Jandt, "Recommendations for Assessing Speaking and Listening Skills," *Communication Education* 31 (January 1982): 16.

[112] Aitken and Neer, 270.

[113] Edward M. White, *Developing Successful College Writing Programs* (San Francisco: Jossey-Bass Publishers Inc., 1989), xi.

[114] McCroskey, 1.

[115] White, xi.

[116] Ibid., xvi.

[117] Paul Connolly and Teresa Vilardi, eds., *New Methods in College Writing Programs* (New York: The Modern Language Association of America, 1986).

[118] Ibid.

[119] Ibid., 21.

[120] Ibid., 147.

[121] Ibid., 40.

[122] Huff and Kline, 47.

[123] Ibid.

[124] Connolly and Vilardi.

[125] White.

[126] Connolly and Vilardi, 29.

[127] Ibid., 21.

[128] Carlson and Smith-Howell, 88.

[129] White, 42-44.

[130] Connolly and Vilardi, 21.

[131] Ibid., 40.

[132] White, 48.

[133] Ibid., 49.

[134] Connolly and Vilardi, 12.

[135] Ibid., 40.

[136] Huff and Kline, 47.

[137] White, 51.

[138] Ibid., 52.

[139] Connolly and Vilardi's work cites several programs that use remedial centers to include Brown University, Cornell University, George Mason University, Grinnell College, and Illinois State University.

[140] White, 53.

[141] Donald G. Ellis, "Language and Communication," *Communication Education* 42 (January 1993): 89.

[142] Most, 195.

[143] Cronin and Glenn, 356.

[144] Ibid., 357.

[145] Ibid., 359.

[146] Ibid.

[147] Ibid.

[148] Sherwyn Morreale, Pamela Shockley-Zalabak, and Penny Whitney, "The Center for Excellence in Oral Communication: Integrating Communication Across the Curriculum," *Communication Education* 42 (January 1993): 10-11.

[149] Ibid., 15.

[150] Michael W. Cronin and George L. Grice, "A Comparative Analysis of Training Models Versus Consulting/Training Models for Implementing Oral Communication Across the Curriculum," *Communication Education* 42 (January 1993): 1.

[151] Ibid., 2.

[152] Ibid., 3.

[153] Joseph H. Mahaffey, "The Communication Skills Program at the United States Air Force Air University," in *Communication in General Education*, eds. Francis Shoemaker and Louis Forsdale (Dubuque, Iowa: Wm. C. Brown Company Publishers, 1960), 183.

[154] Cronin and Grice, 4-5.

[155] Ibid.

[156] Ibid., 7.

[157] Brooke L. Quigley and Jody D. Nyquist, "Using Video Technology to Provide Feedback to Students in Performance Courses," *Communication Education* 41 (July 1992): 328.

Chapter 3

METHODOLOGY

INTRODUCTION

The focus of this study is to provide recommendations to improve the teaching of communication skills at AU. The technical policy research design as applied here takes advantage of the unique population at AU. This work analyzes current approaches to communication skills training at AU, as well as methodologies used in academic institutions and corporate America. The research team will use careful analysis of AU student survey data, faculty interviews and archival data, combined with an exhaustive literature search, to provide recommendations for improvement.

RESEARCH DESIGN

This study employs a multidimensional, technical policy research approach to answer an evasive research question. A survey of two student populations provided data on the current status of communication skills training at the mid career level. The research team

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used interviews and archival records at AU schools to analyze the current approaches across AU curricula. A literature search provided the team with data on current and emerging trends in teaching communication skills across academic institutions and the workplace. This multidimensional approach is policy research at the organizational level of analysis, defined in the literature as technical policy research.[1]

The research team chose policy research methodology for several important reasons. Majchrzak describes policy research as responsive to the user, multidimensional in scope and methods, and that which explicitly incorporates the values of the researcher and user.[2] The challenge of this study was to meet the expectations of the intended user, examine a complex, multidimensional issue in a real world setting, and attempt to integrate the values of the researchers and intended users. As indicated by this list of characteristics, policy research is a challenging endeavor—this study was no exception.

Majchrzak suggests there are four research processes that comprise policy research: policy analysis, basic research policy analysis, policy research, and technical policy research.[3] *Policy analysis* focuses on technical problems (small in scope) and has a low action-orientation; it is the study of policy making process. *Basic research policy analysis* also has a low action orientation, but focuses on fundamental social issues; it is typically represented by traditional academic research. *Policy research* has a high action orientation and focuses on fundamental social issues, providing decision makers with alternatives to fundamental social problems, for example. *Technical policy research* has a high action orientation, but focuses on narrowly-defined problems; it provides decision makers with alternatives to a specific problem.

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This research study is technical policy research as defined by Majchrzak[4] It is also similar to action research as described by Issac and Michael, research which is practical and directly relevant to an actual situation in the working world.[5] High action orientation implies greater concern for the immediate utility of the results than does research processes with low action orientation. The technical focus of the this study allows the researchers to focus on providing alternatives without having to make value judgments in terms of whether AU should teach communication skills at all. The later is left for other policy researchers and is not within the scope or the purpose of this study.

Technical policy research requires the researcher to understand more than the substantive knowledge of the particular subject area.[6] Technical policy research also requires the application of different methodological and analytical tools. However, for the study to yield useful information and recommendations, the research process requires an understanding of the arena in which the study results will be received and implemented. The research team decided to use a survey instrument to determine this aspect of the study. The research team designed the instrument to provide a perception of the current situation within AU at the point of policy impact—the student population.

DATA COLLECTION

The research team used four means of data collection to provide data for the synthesis of policy recommendations. First, the team conducted an exhaustive literature search to provide information on the scope of the issue and provide working definitions.

The literature search also provided data on existing and emerging trends in teaching communication skills within the workplace and in academic institutions.

The team used face-to-face interviews and analysis of archival records to baseline the current programs at AU schools. Each PME school provided information on their objectives, methodologies, and faculty. This data provided the team with a current benchmark for the development of policy recommendations.

The research team administered a survey instrument to the students of Air Command and Staff College (ACSC) AY96 and the Senior NCO Academy (SNCOA) class 96B. The survey provided the team with student perceptions of the current communication skills of Air Force members and the effectiveness of programs at two AU schools. The survey results provided a reference point for developing feasible policy alternatives; focused on improving communication skills programs at AU.

INTERVIEW METHODOLOGY

The research team used the personal interview method to collect data concerning the communications skills curricula at all of the AU PME schools. Nachmias and Nachmias state that personal interviews provide greater flexibility which allows the interviewer to clarify points that are unclear and probe for additional information.[7] In addition, the personal interview allows the interviewer to control the interview situation. Given the nature of the research questions, the personal interview met the researchers' requirements.

The researchers followed the interview guidance outlined by Fink and Kosecoff.[8] Interviewers provided a brief introductory statement that described who the researchers

were and why they were conducting the interview. In addition, the interviewer discussed the reason for contacting the specific interviewee. Finally, the interviewer expressed the importance of the research project to each interviewee. Fink and Kosecoff point out that this introductory methodology enhances both the cooperation of the interviewee and the quality of the data.

SURVEY INSTRUMENT

The research team developed the survey instrument and coordinated it in accordance with the procedures outlined in the AU Sampling and Survey Handbook and was assigned survey number AU SCN 95-57, by Headquarters AU. The first section of the survey instrument probes for the survey participants' perception of the communication skills of Air Force members in five groups: airmen (E-1 to E-3), noncommissioned officers (E-4 to E-6), senior noncommissioned officers (E-7 to E-9), company grade officers (O-1 to O-3), and field grade officers (O-4 to O-6). The survey addressed reading, writing, and speaking skills. The survey instrument further probed opinions regarding the use of duty hours for Air Force members to improve these skills. The second section of the survey instrument covered participants' perceptions of the communication skills curriculum of the PME school they are currently attending. The final section of the survey instrument consisted of three open-ended questions requested by the research sponsor. The first question solicited the survey participants' comments regarding programs the Air Force could implement to help Air Force members with their communication skills. The second question solicited potential improvements to the

school curriculum itself. The third open-ended question sought any other comments regarding the communication skills of Air Force members.

The research team tested the survey instrument for validity and refined the instrument in a three-stage process. First, the instrument was distributed to all research team members and advisors for an initial review and face validity check. The primary research advisor, an expert in the communication field, also provided a content validity check.

Next, the team presented the updated survey instrument as a limited-distribution pilot study to a small group from each sample population, using guidelines suggested by Fink and Kosecoff.[9] The research team used the same environment and circumstances to administer the pilot study as would be employed for the actual survey, selected respondents similar to the survey population, used the maximum feasible number of participants, and focused on reliability of the instrument. Specifically, the pilot survey was administered to seminar leaders from each school, which allowed the research team to analyze the responses of the pilot study for reliability—i.e., not answering questions, several answers to the same question, and looking for comments in the margin which suggest a poorly worded question. The pilot study further allowed the research team to gauge the approximate time necessary for a participant to complete the survey—average completion time was ten minutes. Finally, the pilot test demonstrated that a range of responses for each question was possible, thus reflecting a true difference in opinions and providing useful data for the study.

The third stage of testing consisted of distributing the pilot survey to ACSC faculty members for further face validity checking of the instrument itself. This three-stage validation process resulted in the survey instrument shown in Appendix A. Since a true statistical validation of a survey instrument was outside the scope and needs of this study, the research team treated the data from the 5-point Likert scale appropriately in the statistical analysis.

POPULATION

The population for this study consisted of the US Air Force members of the AY96 Air Command and Staff College (ACSC) and the Senior NCO Academy (SNCOA) class 96B, each with a USAF student body of approximately 400 students. The research team chose these two populations because of their job experience (mid-level career managers) and their relative demographic congruence with the Air Force as a whole. Students selected to attend these two schools represent a wide range of Air Force specialties. In addition, the researchers wanted to see if any differences between NCOs and officers existed that would impact the recommendations of the study.

Surveys were distributed to the ACSC student leaders on January 25, 1996 and were completed and returned to the researchers on January 26, 1996. The team distributed surveys to 387 ACSC students, and 309 were completed and returned, for a return rate of 79.8 percent.

Surveys were distributed to the SNCOA student leaders on January 25, 1996, were completed on January 26, 1996, and returned to the researchers on January 29, 1996.

Surveys were distributed to 366 SNCOA students, with 354 completed and returned, for a return rate of 96.7 percent.

STATISTICAL ANALYSIS

The technical policy research design of this study did not require an emphasis on statistical methods. However, researchers used some tools in the analysis of the survey instrument. First, descriptive statistics were used to initially analyze and display the survey results. Results from both populations were tabulated and compiled for the initial comparison and analysis of data. These methods are the most commonly used and provide the basis for further analysis and techniques.[10]

Survey data were further analyzed using the chi-square test of difference.[11] Although some researchers interpret Likert-scale data as interval or ordinal data, the data yielded by this survey was best analyzed as categorical (nominal). The responses could have been analyzed in terms of differences based on the mean (such as a t-test), however, the research team felt that understanding the differences in frequencies of various responses was more critical in the final analysis. The need to analyze the data in terms of differences in frequencies between the two groups drove the decision to use the chi-square test of difference. Chi-square analysis provides the ability to determine if differences in frequencies of responses exist between two or more groups at the nominal level of measurement. This analysis tool allowed the researchers to determine if significant differences existed in the two survey populations ($p < .05$), therefore facilitating more appropriate recommendations for the intended user.

Notes

[1] Ann Majchrzak, *Methods for Policy Research* (Newbury Park, CA: Sage Publications, 1984), 18.

[2] Ibid., 20.

[3] Ibid., 13.

[4] Ibid.

[5] Stephen Issac and William B. Michael, *Handbook in Research and Evaluation* (San Diego, CA: Edits Publishers, 1985), 55.

[6] Majchrzak, 14.

[7] David Nachmias and Chava Nachmias, *Research Methods in the Social Sciences* (New York: St. Martin's Press, 1987), 240-41.

[8] Arlene Fink and Jacqueline Kosecoff, *How to Conduct Surveys* (Newbury Park, CA: Sage Publications, 1985), 46-47.

[9] Ibid., 50-51.

[10] Ibid., 73-74.

[11] Ibid., 75-76, 111.

Chapter 4

PRESENTATION OF DATA

INTRODUCTION

The authors examined the issue of how to better teach communication skills at Air University (AU) professional military education (PME) programs by employing a technical policy research methodology. Part of this methodology was to design a survey instrument to gather data concerning PME student perceptions of communication skills issues. The survey was given to two populations of PME students: Air Command and Staff College (ACSC) and the Senior NCO Academy (SNCOA). Both groups represent a cross section of the career fields in the Air Force and provide different perspectives (officer and enlisted) on the issue. The research team used a chi-square test of difference to determine statistical differences between the two groups.

In addition to the survey instrument, the research team conducted an analysis of the current programs offered at all AU PME schools. The analysis consisted of face-to-face interviews with program coordinators and reviews of archival records of lesson plans and

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curriculum materials. The current program analysis provides a benchmark on the status of teaching communication skills at AU.

SURVEY INSTRUMENT

Survey Data

The survey instrument[*] concentrated on several aspects of the communication skills issue. Questions 3 through 17 addressed writing skills: How important are writing skills to the various grade levels?; Do people possess the necessary skills?; Should duty time be afforded to improve skills? Questions 18 through 32 asked the same questions regarding reading skills and questions 33 through 47 the same questions regarding speaking skills. Questions 48 through 50 asked if individuals taking the survey possessed these three skills and questions 51 through 61 focused on individual perceptions of communication skills and corresponding programs at the particular PME school.

Table 4-1. Education Levels

2. My education level is

	Less than Bachelor's	Bachelor's	Master's	Doctorate
ACSC	0	48	252	9
SNCOA	247	91	16	0

$x^2 = 476.263$, df = 3, p < .01

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[*] Appendix A is a copy of the survey; appendix B is a summary of survey data in raw form

Summary of Table 4-1. The survey instrument contained one demographic question concerning education level, as displayed in Table 4-1. The chi-square analysis suggests there is a significant difference in terms of education: $p < .01$. This demographic difference, combined with the difference in rank, may have contributed to the different results between the two groups. Overall, out of the 58 survey questions, a chi-square analysis indicated that 41 questions were significantly different at the $p < .05$ level of significance. This suggests the populations do not share the same perceptions, or at least not to the same degree of agreement or disagreement.

Table 4-2. Questions 3 through 7—Writing Skills are Important.

3. Writing skills are an important aspect of the job responsibilities of an airman.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	2%	24%	24%	40%	9%	$x^2 = 8.12$, df $= 4$
SNCOA	6%	28%	21%	38%	8%	not significant

4. Writing skills are an important aspect of the job responsibilities of an NCO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	2%	5%	61%	32%	$x^2 = 15.68$, df $= 4$
SNCOA	1%	0%	1%	57%	41%	$p < .01$

5. Writing skills are an important aspect of the job responsibilities of a SNCO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	0%	0%	16%	83%	$x^2 = 12.56$, df $= 2$
SNCOA	0%	0%	1%	8%	92%	$p < .01$

6. Writing skills are an important aspect of the job responsibilities of a CGO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	1%	1%	37%	61%	$x^2 = 29.33$, df $= 3$
SNCOA	0%	0%	1%	18%	80%	$p < .01$

7. Writing skills are an important aspect of the job responsibilities of a FGO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	0%	0%	7%	92%	$x^2 = 5.12$, df $= 2$
SNCOA	0%	0%	2%	5%	93%	not significant

Table 4-3. Questions 8 through 12—Individuals Possess Writing Skills.

8. Airmen have the necessary writing skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	5%	33%	37%	25%	1%	$x^2 = 4.89$, df $= 4$
SNCOA	6%	29%	32%	32%	1%	not significant

9. NCOs have the necessary writing skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	3%	36%	31%	29%	0%	$x^2 = 14.07$, df $= 4$
SNCOA	6%	44%	22%	27%	2%	$p < .01$

10. SNCOs have the necessary writing skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	2%	19%	25%	51%	3%	$x^2 = 12.39$, df $= 4$
SNCOA	3%	20%	19%	49%	8%	$p < .02$

11. CGOs have the necessary writing skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	1%	19%	25%	52%	4%	$x^2 = 12.15$, df $= 4$
SNCOA	2%	13%	25%	51%	9%	$p < .02$

12. FGOs have the necessary writing skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	1%	10%	14%	64%	11%	$x^2 = 15.77$, df $= 4$
SNCOA	0%	7%	18%	54%	21%	$p < .01$

Summary of Tables 4-2 and 4-3. Despite the statistical difference between the two groups (based on the results of questions 3 through 7, shown in Table 4-2), there are significant trends in the data to suggest improvement in individual communication skills

is needed. At least 93 percent of the survey population agreed that writing skills are an important aspect of the job responsibilities of all ranks above NCO (E-5 and above), while only 46 percent surveyed were in agreement regarding the airman level (E-4 and below). These findings suggest a perception that as an individual moves higher in rank, the importance of writing skills also increases. Furthermore, the results of questions 8 through 12, shown in Table 4-3, suggest there is a perception that not everyone possesses the necessary writing skills to perform their jobs. Although there were significant differences in actual ratings, the results are summarized as follows:

- 30 percent of both groups said airmen and NCOs possess the necessary writing skills
- 50 percent said the same of the senior NCOs
- more than 50% said the same of the company grade officers
- 70 percent said the same of the field grade officers

In spite of the statistical differences noted between groups, the data suggest there is a perception of a lack of writing skills throughout the ranks, but that this lack of skills reduces as rank increases.

Table 4-4. Questions 18 through 22—Reading Skills are Important.

18. Reading skills are an important aspect of the job responsibilities of an airman.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	1%	6%	54%	39%	$x^2 = 14.55$, df = 3
SNCOA	0%	0%	3%	45%	52%	$p < .01$

19. Reading skills are an important aspect of the job responsibilities of an NCO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	0%	1%	44%	55%	$x^2 = 19.23$, df = 2
SNCOA	0%	0%	0%	30%	70%	$p < .01$

20. Reading skills are an important aspect of the job responsibilities of a SNCO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	0%	1%	27%	72%	$x^2 = 17.01$, df = 3
SNCOA	0%	0%	0%	16%	84%	$p < .01$

21. Reading skills are an important aspect of the job responsibilities of a CGO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	0%	0%	25%	75%	$x^2 = 8.54$, df = 2
SNCOA	0%	0%	2%	18%	80%	$p < .02$

22. Reading skills are an important aspect of the job responsibilities of a FGO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	0%	0%	20%	79%	$x^2 = 6.47$, df = 2
SNCOA	0%	0%	2%	15%	83%	$p < .05$

Table 4-5. Questions 23 through 27—Individuals Possess Reading Skills.

23. Airmen have the necessary reading skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	1%	21%	37%	39%	2%	$x^2 = 9.445$, df = 4
SNCOA	1%	23%	26%	46%	4%	not significant

24. NCOs have the necessary reading skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	12%	29%	56%	3%	$x^2 = 5.807$, df = 4
SNCOA	0%	15%	23%	56%	6%	not significant

25. SNCOs have the necessary reading skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	4%	22%	64%	9%	$x^2 = 9.84$, df = 4
SNCOA	0%	7%	14%	67%	11%	$p < .05$

26. CGOs have the necessary reading skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	5%	13%	70%	12%	$x^2 = 10.53$, df = 3
SNCOA	0%	2%	17%	62%	18%	$p < .02$

27. FGOs have the necessary reading skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	4%	9%	69%	18%	$x^2 = 11.63$, df = 3
SNCOA	0%	2%	15%	61%	23%	$p < .01$

Summary of Tables 4-4 and 4-5. There are also statistical differences between the two groups' perceptions of reading skills, but trends are evident . Similar to the results for writing skills, at least 90 percent of both groups considered reading skills an important aspect of job responsibilities for all ranks, as shown in Table 4-4. However, when both

groups were asked if all ranks possess these skills, differences emerged between the groups and among the ranks, as shown in Table 4-5. The results are summarized as follows:

- at least 40 percent of both groups perceive airmen possess appropriate reading skills
- 59 percent of both groups perceive the same for NCOs
- 73 percent of both groups perceive the same for senior NCOs
- 80 percent of both groups perceive the same for company grade officers
- 84 percent of both groups perceive the same for field grade officers

The data suggest two perceptions: as individuals increase in rank, their reading skills increase; and these skills are perceived as nearly equally important at any rank.

Table 4-6. Questions 33 through 37—Speaking Skills are Important.

33. Speaking skills are an important aspect of the job responsibilities of an airman.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	1%	30%	24%	39%	6%	$x^2 = 16.54$, df = 4
SNCOA	7%	34%	22%	32%	6%	$p < .01$

34. Speaking skills are an important aspect of the job responsibilities of an NCO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	5%	13%	58%	24%	$x^2 = 2.39$, df = 4
SNCOA	1%	6%	10%	62%	21%	not significant

35. Speaking skills are an important aspect of the job responsibilities of a SNCO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	0%	2%	31%	67%	$x^2 = 1.03$, df = 2
SNCOA	0%	0%	2%	32%	66%	not significant

36. Speaking skills are an important aspect of the job responsibilities of a CGO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	0%	2%	36%	61%	$x^2 = 3.06$, df = 4
SNCOA	0%	1%	4%	33%	62%	not significant

37. Speaking skills are an important aspect of the job responsibilities of a FGO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	0%	1%	13%	86%	$x^2 = 9.13$, df = 2
SNCOA	0%	0%	2%	21%	77%	$p < .02$

Table 4-7. Questions 38 through 42—Individuals Possess Speaking Skills.

38. Airmen have the necessary speaking skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	3%	21%	40%	34%	2%	$x^2 = 6.20$, df = 4
SNCOA	3%	27%	32%	36%	2%	not significant

39. NCOs have the necessary speaking skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	1%	19%	36%	42%	2%	$x^2 = 19.87$, df = 4
SNCOA	4%	25%	24%	42%	5%	$p < .01$

40. SNCOs have the necessary speaking skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	1%	12%	23%	58%	7%	$x^2 = 12.16$, df = 4
SNCOA	3%	15%	24%	48%	10%	$p < .02$

41. CGOs have the necessary speaking skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	11%	24%	61%	4%	$x^2 = 19.75$, df = 4
SNCOA	1%	10%	22%	47%	20%	$p < .01$

42. FGOs have the necessary speaking skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	8%	18%	64%	10%	$x^2 = 17.02$, df = 4
SNCOA	1%	8%	19%	51%	21%	$p < .01$

Summary of Tables 4-6 and 4-7. The responses to speaking skills were similar to those of writing. Once again, there were statistical differences between the groups; however, trends are still evident. The importance of speaking skills ranged from 38

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percent agreeing that airmen require speaking skills to perform their jobs, to 98 percent for field grade officers, as shown in Table 4-6. The data indicate a significant increase in needs perception exists among both groups regarding the emphasis required of NCO grades compared to that required of airmen. At least 82 percent of both groups believed that speaking skills are an important skill for NCOs to perform their jobs. This contrasts with 38 percent of both groups believing the same for airmen. In terms of whether individuals possess speaking skills, a similar trend emerged, suggesting that as rank increases, so does level of skill. These data are shown in Table 4-7 and summarized as follows:

- at least 36 percent of both groups said airmen possess necessary speaking skills
- 44 percent of both groups said the same of NCOs
- 58 percent of both groups said the same of senior NCOs
- 64 percent of both groups said the same of company grade officers
- 72 percent of both groups said the same of field grade officers

The responses to these first three major areas of the survey instrument provide insight into the perception of communication skills within the Air Force. The data suggest that reading, writing, and speaking skills are important for individuals in all ranks, but the degree of importance varied between the two survey populations. Additionally, the surveyed groups' perceptions of whether different ranks possess these skills seemed to increase according to rank. However, among those surveyed there is a perception that a significant portion of the force does not possess the necessary skills to successfully perform on the job.

Table 4-8. Questions 48 through 50—I Have Comm Skills to Perform My Job.

48. I have the reading skills necessary to perform my job.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	2%	3%	49%	46%	$x^2 = 3.95$, df = 3
SNCOA	0%	4%	2%	50%	43%	not significant

49. I have the writing skills necessary to perform my job.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	1%	2%	6%	50%	42%	$x^2 = 12.50$, df = 4
SNCOA	1%	5%	6%	57%	31%	$p < .02$

50. I have the speaking skills necessary to perform my job.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	1%	12%	23%	58%	7%	$x^2 = 14.50$, df = 4
SNCOA	3%	15%	24%	48%	10%	$p < .01$

Summary of Table 4-8. The focus of the remaining survey questions changes with question 48. This question shifts emphasis from looking at others to looking at one's self in terms of reading, writing, and speaking skills, as shown in Table 4-8 and summarized as follows:

- at least 94 percent of both groups agree they have necessary reading skills
- 88 percent of both groups agree they have necessary writing skills
- 86 percent of both groups agree they have necessary speaking skills

The data suggest that both groups feel they have the necessary communication skills to perform their jobs, although there is a statistical difference in degrees of agreement in speaking and writing, attributed to individuals selecting either "agree" or "strongly agree"

for these questions. Students from the SNCOA tended to select "agree" while ACSC students more frequently selected "strongly agree".

Table 4-9. Questions 51 through 54—Writing Skills at PME.

51. I have the writing skills necessary to complete the requirements of this school.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	3%	4%	56%	37%	$x^2 = 7.94$, df = 4
SNCOA	1%	3%	6%	62%	29%	not significant

52. The school emphasizes writing skills improvement.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	9%	32%	18%	29%	11%	$x^2 = 229.4$, df = 4
SNCOA	1%	3%	4%	45%	47%	$p < .01$

53. Attendance at this school has improved my writing skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	5%	29%	28%	29%	9%	$x^2 = 96.89$, df = 4
SNCOA	2%	7%	18%	52%	22%	$p < .01$

54. The faculty is qualified to evaluate my writing skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	5%	22%	33%	34%	6%	$x^2 = 97.11$, df = 4
SNCOA	1%	5%	20%	54%	21%	$p < .01$

Table 4-10. Questions 55 through 57—Reading Skills at PME.

55. I have the reading skills necessary to complete the requirements of this school.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	1%	11%	8%	52%	27%	$x^2 = 41.48$, df $= 4$
SNCOA	0%	1%	4%	58%	37%	$p < .01$

56. The school emphasizes reading skills improvement.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	8%	22%	21%	38%	11%	$x^2 = 46.41$, df $= 4$
SNCOA	1%	12%	16%	52%	20%	$p < .01$

57. Attendance at this school has improved my reading skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	3%	21%	21%	40%	15%	$x^2 = 18.33$, df $= 4$
SNCOA	5%	23%	32%	30%	10%	$p < .01$

Table 4-11. Questions 58 through 61—Speaking Skills at PME.

58. I have the necessary speaking skills necessary to complete the requirements of this school.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	0%	1%	4%	58%	37%	$x^2 = 10.93$, df = 4
SNCOA	0%	2%	8%	62%	28%	$p < .05$

59. The school emphasizes speaking skills improvement.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	5%	38%	23%	31%	3%	$x^2 = 345.2$, df = 4
SNCOA	0%	1%	2%	45%	52%	$p < .01$

60. Attendance at this school has improved my speaking skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	5%	40%	27%	22%	5%	$x^2 = 189.4$, df = 4
SNCOA	2%	6%	15%	50%	27%	$p < .01$

61. The faculty is qualified to evaluate my speaking skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
ACSC	5%	21%	38%	33%	4%	$x^2 = 208.9$, df = 4
SNCOA	0%	1%	11%	57%	30%	$p < .01$

Summary of Tables 4-9 Through 4-11. Questions 51 through 61 focused on communication skills at PME. These questions measured perceptions of the individuals' personal skills in terms of being sufficient to complete the course. These questions were designed to provide data on the individual's skills, the degree of emphasis placed on particular communication skills, self-report of improvement based on attendance at the school, and the quality of the faculty who evaluate the skills. Since reading skills are not taught or evaluated at PME the survey did not ask students to evaluate faculty in this area.

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The responses to the questions regarding whether they had the necessary writing skills to complete the course showed there was no significant difference between the two populations, as shown in Table 4-9. More than 90 percent of both groups agreed they possessed the required skills. However, there was a significant difference ($p < .01$) in data from the questions about emphasis on writing skills, improvement in writing skills resulting from instruction given, and the quality of faculty evaluation. Only 40 percent of ACSC students agreed there was emphasis placed on writing skills improvement in comparison with 93 percent of SNCOA students. There were also significant differences in noting improvement in writing skill from instruction ($p < .01$) and the quality of faculty evaluating writing skill ($p < .01$). Approximately 40 percent of the ACSC students agreed in these two areas while more than 70 percent of the SNCOA students agreed.

Similar results were noted in the area of reading skills, with the exception of noting a significant difference ($p < .01$) in the perception of possessing the necessary skills, as shown in Table 4-10. Data indicate that 79 percent of ACSC students felt they had the necessary skills in comparison to 95 percent of SNCOA students. Significant differences were also noted in perception of emphasis being placed on reading skills ($p < .01$) and self-report of improvement based on attendance at the school ($p < .01$). The SNCOA students rated these areas higher than ACSC students.

Finally, in the area of speaking skills, there were significant differences noted between the two populations for all four questions, as shown in Table 4-11. Although 90 percent of all students agreed they possessed the speaking skills necessary to complete the school, there was a significant difference ($p < .05$) noted in that SNCOA students

rated this question lower than ACSC students. In the question regarding emphasis placed on speaking skills, an extreme difference was noted ($p < .01$, $x^2 = 345.22$, $df = 4$). ACSC students tended to disagree (43 percent) while SNCOA students responded positively (97 percent). Extreme differences were also noted between the two groups' responses to questions on perceived improvement from attendance at the school ($p < .01$, $x^2 = 189.415$, $df = 4$) and the quality of faculty evaluating speaking skills ($p < .01$, $x^2 = 208.911$, $df = 4$). In both cases, ACSC students tended to rate these areas lower than SNCOA students.

Summary of Survey Data

A survey instrument was developed to assess communication skills in the Air Force. The survey solicited perceptions of junior field grade officers attending Air Command and Staff College and noncommissioned officers attending the Senior NCO Academy with the belief that their responses would provide an informal view of the state of communication skills in the Air Force. The data provided two different perspectives, one officer and one enlisted.

The data shows that both groups agreed that writing skills are important for all jobs throughout all ranks, but the degree of importance increases as rank increases. Similarly, there is a perception that as individuals increases in grade, their skills increase as well, but there is still room for improvement at all levels.

Both groups see reading skills as an important aspect of one's job responsibilities. Although the skills are more important for higher ranks, there is consensus that reading

skills are important at all ranks. Both groups see a deficiency in reading skills—particularly in the lower ranks.

The respondents believe that speaking skills are an important aspect of one's job responsibilities, but the degree of importance increases with rank. However, as with reading and writing areas, improvement is needed in all ranks.

Individuals were also asked to assess their own personal communication skills in performing their primary jobs. For both groups, self-report data of personal skills were consistently and significantly higher than their assessment of the average person in their grade. In other words, respondents believe there is a problem, but the problem rests more with others than with themselves.

Finally, individual's were asked to assess their own communication skills in relation to their PME experience. Individuals in both groups believed that they possessed the necessary speaking, writing, and oral communication skills to successfully complete the course. However, the ACSC students were not as confident as the SNCOA students in the areas of reading while SNCOA students were less confident in the area of speaking.

In terms of improvement in communications while attending PME both groups felt they improved, but not to the same degree. ACSC students felt more strongly in reading skills improvement while the SNCOA students perceived more improvement in the areas of speaking and writing.

Significant differences were also noted in students' perceptions of the quality of the faculty evaluating their skills in writing and speaking. In both cases, the ACSC students perception was significantly lower than the students at the SNCOA.

AU PME PROGRAMS

AU provides many academic programs, however, this study focused on PME. The researchers used face-to-face interviews and reviewed archival records of each PME school: Airman Leadership Schools, Noncommissioned Officers Academies, Senior Noncommissioned Officer Academy, Squadron Officer School, Air Command and Staff College, and the Air War College. The focus of this data gathering effort was to better understand what is being taught and the corresponding curriculum methodology for teaching it. The following sections briefly describe enlisted and officer PME, as well as communication skills curriculum at each school.

Enlisted PME

Enlisted PME is taught in three levels. The Airman Leadership School (ALS) is a 5-week course for senior airmen (grade E-4) at approximately the 3 to 5 year point of military service. The second tier, the Noncommissioned Officer Academy (NCOA), is a 6-week course designed for staff and technical sergeants (grades E-5/E-6) at middle levels of supervision. Finally, the Senior Noncommissioned Officer Academy (SNCOA) provides a 7-week curriculum for master and senior master sergeants (grades E-7/E-8) preparing for superintendent responsibilities.

Communication skills curriculum development within enlisted PME is centrally developed by the College for Enlisted PME (as is all enlisted PME curriculum). While commandants at each level of PME provide inputs to communication curriculum

development, the consolidation that occurs at the College provides congruence between all levels and within all schools. As a result, the schools' communication skills lessons are built on a congruent building block approach. Each level of PME targets a predetermined level of instruction which seeks to prepare students for positions of increased responsibility. Systematically increasing individual student ability to communicate improves their leadership and supervisory skills. The standard used to teach and evaluate the improvement of students skills (both writing and briefing) is the six-step organization process detailed in AFH 37-137, The Tongue and Quill.[1] The overall framework emphasizes the three broad concepts of organization, support, and expression/delivery.

The College for Enlisted PME is also responsible for giving advanced instructor training for enlisted instructors at all three levels of PME. Before being hired to teach, new instructors are required to successfully complete the Air Force's Academic Instructor School (AIS) 4-week course. AIS provides instruction on levels of learning, lesson plan development, and test development fundamentals. Furthermore, these new instructor candidates receive practical experience at presenting different types of lessons.

Following graduation from AIS, all enlisted instructors receive 10 days of continuation training from the curriculum development teams prior to their assuming teaching duties at their respective bases.[*] The core requirements of this training are defined in SDI 8T000, Career Field Education and Training Plan. Specifically for facilitating communication skills training, new instructors receive lessons on evaluation

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[*] The Senior NCO Academy is located at Gunter Annex, Maxwell AFB. The NCO Academies and Airman Leadership schools are dispersed throughout the air force.

and feedback techniques, evaluation and analysis management, and curriculum feedback. Additionally, each new instructor is required to complete a self-paced grammar lesson book titled English 3200 with Writing Applications, by Joseph C. Blumenthal. The lessons in this book teach, or provide refresher training on, the basics of sentence structure and grammar.

Once this continuation training is completed, instructors continue their training at their respective school by reviewing written products and taped briefings and participating in group training sessions with other instructors. However, much of this training is for the norming process of evaluation and grading rather than the development of the instructors' expertise in providing instruction.

Airman Leadership Schools (ALS).[2] The ALS provide a total of 186 curriculum hours of instruction—42 hours of which are devoted to communication skills. This communication skills area includes reading and writing diagnostics, units of instruction and taskings for writing and speaking skills, and interpersonal communication.

Students complete the Air Force Reading Abilities Test (AFRAT) and a writing worksheet for the reading and writing diagnostic process. Results of these two diagnostics are designed for informational purposes only and are not included in the student's overall evaluation process. Students who are identified as deficient during the diagnostic process are offered an opportunity to improve their skills using a programmed text in basic grammar.

Once these diagnostics are completed, students receive instruction for, and are assigned tasks in, developing bullet statements as well as 2 formative writing assignments

of about 250 words each. For bullet statement exercises, students prepare an outline on a quality of life issue (which is used later in preparing a briefing), a proposed quarterly nomination package, and a talking paper. Additionally, students are tasked to write two official memorandums, chosen since airmen are more likely to prepare these types of products. The first (a sponsorship letter) is an exercise in the areas of objective, support, and organization demonstrating the application level of learning. The second official memorandum exercise allows the student to choose between a nomination package or a letter of appreciation. These exercises are contextual, making these exercises more practical to the students.

In addition to the writing projects, students are taught the basics for effective speaking and are tasked to demonstrate these concepts via a speaking skills exercise and a formative briefing. The speaking skills exercise requires students to prepare and present a five-minute extemporaneous briefing on the previously prepared quality of life bullet paper. Additionally, students prepare and deliver a five-minute formative briefing on a selected Air Force related topic.

Noncommissioned Officer Academies (NCOA).[3] The NCOAs include 41 curriculum hours of communication skills lessons and exercises within a total contact curriculum of 220 hours. Currently the communication skills area is under revision and is being tested at selected locations before changes are implemented Air Force-wide. One of the largest changes is with the philosophy of administering diagnostics. Up until recently the NCOAs tested students with diagnostics on sentence structure, grammar, and clarity. However, since only a small number of students in recent years were identified as being deficient, and no remedial instruction was given to those students, these diagnostic tests

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have been discontinued at the test NCOAs. As of March, 1996, four classes have not received these diagnostics and the NCOAs report no distinguishable difference in overall student performance when compared to those NCOAs still testing. Additionally, students have been preparing a total of five writing and five briefing exercises. These exercises have been deemed excessive and will be discontinued in July 1996. These assignments have followed blocks of communication skills instruction.

Under the new concept, the NCOAs will provide students a refresher course on planning and developing effective communication before assigning written exercises. The first exercise is the preparation and self-evaluation of five bullet statements. Upon successful completion of this in-class exercise, students are tasked to develop a background or position paper on topics taught in other areas of their curriculum. These papers are required to be three typed or six handwritten pages and must also include two additional sources beyond the course materials. Once this project is completed and graded, and the student receives feedback; students write another product under the same guidelines. However, this exercise is a position paper if the first paper was a background paper, or vice versa. Additionally, their second product must be on a subject from a different curriculum area.

The above papers then become the basis for briefing development and presentation. Students are expected to outline their papers and present a ten-minute briefing of their subject. At the completion of each briefing, students are given immediate feedback and must review a videotaped record of their presentation.

Senior Noncommissioned Officer Academy (SNCOA).[4] The SNCOA has 280 curriculum hours of application level lessons of which 50 are devoted to communication

skills. The communication curriculum encompasses diagnostics, supporting lessons, and both summative and formative writing and briefing exercises.

The initial diagnostic evaluation process includes a writing diagnostic, a three-to-five-minute extemporaneous briefing, and a Nelson-Denny Reading test. The writing diagnostic requires the student to prepare a two-paragraph essay which explains the relationship between two topics. Following completion of this essay, students must develop and present a quick briefing on their organizational duties within their units. In addition, the Nelson-Denny Reading test (a rate/vocabulary/comprehension diagnostic) is administered to all students. The instructors evaluate the essay and briefing exercises and review the Nelson-Denny results to identify students with possible shortfalls in these areas. Once these students receive feedback, they are encouraged to select one of the following electives: mechanics of writing, paragraph development, or speech. These elective courses are designed to improve their individual communication competencies.

When the initial evaluation phase is complete, all students receive instruction in effective writing techniques and complete two formative and two summative writing assignments. The formative writing assignments task the student to plan, organize, and develop a two-page typed subject from their leadership and behavior analysis lessons. The students select the format from either a background paper, position paper, official memorandum, or a memorandum for record. In addition to these formative writing assignments, students must develop two summative writing products. They also write a two-page essay or article based on the profession of arms and human resource management lessons taught in the rest of the SNCOA curriculum.

Students use their formative written products as the basis for developing two four-to-six-minute assigned briefings; however, the briefings occur prior to receiving feedback on the original written product. The two briefings are first outlined in talking papers. Similarly, the summative written products are used to prepare and present two eight-to-ten-minute briefings. Upon completion of these briefings, students receive feedback on both the associated written product and their briefing skills.

Officer PME

Officer PME is taught at three independent schools, each with a separate focus. Squadron Officer School (SOS) is a seven-week course that primarily focuses on teaching and developing officership and leadership principles and skills to captains with four to seven years of military service. One-hundred percent of line officers currently attend SOS.

Air Command and Staff College (ACSC), the second level of officer PME, is a ten-month course for Air Force and sister service O-4s. Approximately 18 to 20 percent of Air Force majors are selected to attend. ACSC's curriculum has changed extensively in recent years. Prior to the AY94 school year, the curriculum focused on four areas: 1) staff communication; 2) command, leadership, and combat support; 3) national security affairs; and 4) warfare studies. However, in the last three years, ACSC curriculum focus shifted to increase emphasis on warfighting principles and campaign planning, as well as increased book-based instruction.

The final level of Air Force officer PME is the Air War College (AWC). AWC is a ten-month school for Air Force and sister service O-5s and O-6s. Approximately 14

percent of Air Force lieutenant colonels are selected to attend. The AWC core curriculum is divided into five areas: 1) conflict and change; 2) leadership and ethics; 3) international security studies; 4) strategy, doctrine, and airpower; and 5) joint force employment.

Squadron Officer School (SOS).[5] Squadron Officer School's communication curriculum is one of four curriculum areas. Approximately 32 of 62 in-class communication curriculum hours are devoted to teaching basic skills. There are no diagnostic examinations given and each student starts at the same level of instruction regardless of their current competency.

The school's communication curriculum is divided into two parts: writing Air Force products, and briefing military subjects. The overall communication curriculum begins with a guided discussion called *Introduction to Effective Communication* which provides instruction on common principles for both writing and briefing.[6] Instruction and evaluation for both writing and briefing is framed around the six-step organization process detailed in AFH 37-137, The Tongue and Quill. The overall approach to effective communication emphasizes the three broad concepts of organization, support, and expression/delivery. The SOS curriculum emphasis on teambuilding and leadership encourages students already proficient in writing and briefing to assist those who need help. Teamwork and peer feedback are integral parts of the writing and briefing portions of the communication skills curriculum.

The SOS writing program is based on a four-step building block approach. The first step covers basic grammar techniques such as proper use of topic sentences, internal and external transitions, using active voice, etc. Next, students are required to demonstrate

these techniques by developing a talking paper and an official memorandum. The third step tasks students to edit a four-page set of notes into a one-page official memorandum, further demonstrating and practicing basic techniques. Finally, students apply these concepts during two graded exercises: an official memorandum and a current military issues paper.

The briefing portion of the curriculum begins with an introductory seminar that focuses on proper organization, support, and delivery skills. In addition to the guided discussion portion of the seminar, the students observe and critique a taped briefing example.[7] Following this initial seminar students prepare a five-minute job briefing, a ten-minute briefing based on outside sources, and a ten-minute briefing based on their military issues position paper. Following each briefing, each student receives immediate feedback from their peers and instructor. Unlike the SNCOA students, the SOS students receive written and oral feedback on their military issue paper *before* they prepare for their briefing.

For those students requiring additional practical application of writing and briefing skills, SOS instructors can assign additional writing products and briefing assignments, called writing and briefing applications. The instructor tasks the student to develop a written product or briefing and schedules a completion date for the student. Following the instructor's review, students are provided feedback and assigned additional products or briefings if necessary.

SOS instructors are initially trained during a 4-week AIS course. Here, SOS instructors receive instruction in three broad areas: educational foundations, instructional

design, and instructional methodology. Following completion of the AIS course, SOS instructors provide the new faculty a two-phase in-house training program at SOS. The first phase is one week of initial training focusing primarily on evaluation techniques applicable to all curriculum areas to include communication skills. During the second phase of instructor training, the squadron trainers (additional duty for experienced instructors) provide approximately five hours of lesson plan training for all communication skills lessons. Additionally, all instructors review written products and taped briefings and conduct group evaluation discussions. The training for student evaluation and feedback focuses on standardizing (norm referencing)[8] evaluation and feedback throughout the school.

Air Command And Staff College (ACSC).[9] As a result of curriculum changes over the past three years at ACSC, communication skills diagnostic testing and instruction was reduced and eventually discontinued. During the AY94 and AY95 classes, students took three separate communication skills tests at the beginning of the academic year: a reading test, a grammar test, and a composition exercise. Because of the expected heavy reading load, students received reading grade level results from the reading test using the Flesh-Kincaid standard. This information was provided to identify possible shortfalls in student reading skills; however, ACSC did not provide follow-on training for individual students with perceived reading weaknesses.

Additionally, students received grammar tests to identify possible weaknesses. Like the reading diagnostics, these test results merely provide possible problems students may face in the curriculum. Lastly, students completed a short composition exercise on a

pertinent subject area. If the results of this third diagnostic test indicated a major skills shortfall, these students were placed in a remedial writing program that stressed the basics of grammar and sentence structure. It was thought this remedial program assisted those students who were deficient in their ability to express their ideas. This deficiency would hamper their performance on essay tests and on the required research project. A continual decline in communication skills instruction resulted in the complete removal of communication skills instruction from the ACSC curriculum prior to the AY96.

During the past three years new ACSC faculty were expected to possess strong skills in oral and written communication. Currently, new faculty members are provided approximately eight to ten hours of training during the academic year—primarily the review of sample essay tests. The new instructors individually grade these sample tests and participate in group discussions on individuals' evaluation grades. Again, the focus of the training is on norm referencing the evaluation process, not on teaching communication skills.

Air War College (AWC).[10] Communication skills at AWC are taught as electives and not included as part of the core curriculum. Like the current SOS and ACSC programs, diagnostic tests are not administered to AWC students. However, the first essay examination is reviewed by their course director for possible writing deficiencies. If deficiencies are identified, students are *encouraged* to select the Executive Writing Course as an elective. In addition, any student who desires an opportunity to strengthen their basic grammar and sentence structure skills is allowed to enroll in the elective. While no data was available in terms of the number of students identified as needing the

instruction, approximately 15 to 20 students volunteer for this class as one of their electives.

In addition to the standard writing elective, AWC recently contracted with Dr. I.B. Holley, Jr, Duke University Department of History, to conduct a ten-hour training program made available to the entire student body. The objective of the program is to assist students with their research efforts. The program provides lecture instruction on how to conduct academic research and how to write a research paper. Although the course is optional, it was widely accepted by AY96 students—approximately 75 students volunteered and took the course.

Notes

[1] *The Tongue and Quill,* AFH 37-137, provides details on the basic six step process to communication. The basic steps are: 1) Analyze Purpose and Audience, 2) Conduct the Research, 3) Support Your Ideas, 4) Get Organized, 5) Draft and Edit, and 6) Fight for Feedback.

[2] TSgt John V. Reeves, ALS Program Development Team, College for Enlisted PME, Maxwell AFB, AL, interview with author, 17 Jan 1996.

[3] MSgt Michael Terry, NCOA Program Development Team, College for Enlisted PME, Maxwell AFB, AL, interview with author, 3 Feb 1996.

[4] MSgt Jim Richards, SNCOA Program Development Team, College for Enlisted PME, Maxwell AFB, AL, interview with author, 3 Feb 1996.

[5] Capt John Steirwalt, SOS Faculty Trainer, Squadron Officer School, Maxwell AFB, AL, interview with author, 16 Jan 1996.

[6] SOS Lesson Plan 3413, Introduction to Effective Communication, 15 May 1995.

[7] SOS Lesson Plan 3414, Military Briefing, 13 March 1995.

[8] Issac and Michael's *Handbook in Research and Evaluation* describes norm referencing as a process that standardizes scoring in a population based on the performance of all individuals within the population. This is in direct contrast with criterion referencing which standardizes scores based on a specific criterion.

[9] Maj Rex Jordan, former ACSC Communication Curriculum Manager, Air Command and Staff College, Maxwell AFB, AL, interview with author, 23 Jan 1996.

Notes

[10] Lt Col Robert E. Foessett, Chief of Curriculum Support, Air War College, Maxwell AFB, AL, interview with author, 16 Feb 1996.

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Chapter 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

INTRODUCTION

The belief that poor individual communication skills* lead to undesirable results is prevalent in the workplace and in academia. Communication skills are integral to every facet of our lives, whether at work, at school, or at play. Not surprisingly, the National Adult Literacy Survey conducted in 1992 concluded that lower literacy skills correlated with a lower quality of life.[1] Other studies have also indicated a relationship between communication skills and a variety of demographic and personal characteristics.[2] As the population of the United States continues to grow and the workforce becomes more diverse and culturally different, the issue of improving or even maintaining current literacy levels will become increasingly more challenging.[3]

Because the Air Force, as well as its sister services, is a volunteer force selected from the general population, it is reasonable to assume these literacy issues follow recruits into military service. From the first day in uniform, Air Force members must interact with all

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* Also referred to as "literacy" or "basic skills."

types of training materials and instructors. Whether entering for four years or an entire career, Air Force members must learn constantly. Air Force members are continuously called upon to demonstrate knowledge in a variety of ways, from demonstrating learned skills (launching an missile, fixing a component, programming a computer) to speaking about or writing on numerous subjects. Therefore, communication skills need increased attention from military leaders and researchers, because the military is not immune from problems caused by poor application of these skills.

The Air University (AU) was established in 1946 to provide a unified and integrated educational program for career officers, and later, personnel of all ranks and levels of career. A key goal of each AU professional military education (PME) program, whether implied or stated—is to produce Air Force members who can communicate effectively at the appropriate level, especially in speech and writing. Communication skills continue to be a part of the overall curriculum of these programs, but the emphasis and approach vary from one school to another.

"Since human lives may pay the price for ineffectual leadership, the Air Force considers communicative ability absolutely vital in its commanders and staff members."[4] AU leaders should therefore more uniformly emphasize the communication skills curricula within PME programs. Although this quote by a former AU educator is over 35 years old, it still holds true today. Career military supervisors and leaders, whether officer, non-commission officer (NCO), or civilian, are increasingly called upon to effectively communicate in today's complex, fast-moving military environment. PME is

the common educational element for all Air Force personnel. Therefore, increasing the communication skills effectiveness of PME programs is vital to Air Force members.

SUMMARY

The action orientation and technical focus of this study dictated a technical research approach[5] consisting of three elements. The first element was a team-administered survey instrument given to a sample of AU students. The purpose of this survey was to gather data on the perception of communication skills in the Air Force; this data would aid the research team in forming recommendations. The second element was an interview methodology for examining the current status of communication skills curriculum at each AU PME school. The third element was an extensive literature search organized to provide additional data on the nature of communication skills issues in the workplace and academic institutions.

The purpose of this study is to examine the following broad research question: How can we more effectively teach communication skills at AU and thereby improve communication skills throughout the Air Force? Since AU is similar to other institutions of higher education and the corporate Air Force has much in common with corporate America, the research team decided to investigate communication skills in such organizations. More specifically, this study sought answers to the following subsidiary questions:

1. How does corporate America deal with communication skills problems?

2. What are the concerns of academic institutions across America regarding teaching communication skills?

3. How well does the way that AU currently teaches communication skills meet the needs of its students?

Following is a summary of the findings for each of these subsidiary research questions:

HOW DOES CORPORATE AMERICA DEAL WITH COMMUNICATION SKILLS PROBLEMS?

The literature universally agrees that productivity and profitability within civilian industry suffer when employees have poor communication skills. More specifically, individuals who cannot read and write at the required level will be less effective on the job than those who can. However, anecdotal evidence supports the contention that people *can* compensate for poor reading skills, even over an entire career, by observing and asking questions of co-workers.[6] This evidence makes defining the precise nature of the literacy problem difficult because the deficient skills are not always readily observable.

Additionally, the literature review provided evidence that poor communication is not a new issue. Literature from past decades noted literacy deficiencies of the American workforce, and showed almost universal concern among writers that ignoring this problem would contribute to the degradation of the workplace. More recently Askov postulated that increasing concern over social issues has lead to increasing awareness of literacy issues, citing statements by former President Bush and former Labor Secretary

Elizabeth Dole.[7] Ferman surmised that the appearance of the literacy issue on the national agenda has caused the current concerns reported in the media.[8]

Currently industry approaches communication skills issues at two levels: basic skills (or literacy) of its tradespeople and clerical staff; and required skills (beyond basic skills) of its career employees. Basic skills include reading and writing required on the job; general consensus is that the ninth grade equivalency is the minimum grade level for these skills. The definition of "required communication skills" is imprecise, because the debate continues on exactly what constitutes "required" or "sufficient." Additionally, some authors debate that communication skills required throughout a career develop *over time* along with other career attributes. Because it is reasonable to assume Air Force members possess at least basic literacy skills,[9] the literature search focused on the issue of *career* communication skills.

Debate about workplace program *assessment* and program *context* also adds to the complexity of examining communication skills. The issue of program assessment is multi-faceted. It concerns assessing the capabilities of the worker/student before training begins; it concerns opinions of initiators and providers about program goals; and it concerns measuring the success and continued viability of the entire training program. The issue of assessment is tied to perception of the overall literacy problem. In other words, *who* is concerned with assessment is as important as *what* the assessment consists of.

A generic program might have as many as four different actors influencing assessment of the content or the results of the communication skills/literacy program. The

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worker is actor number one. Management is actor two. The union the workers belong to (if one exists) is actor three. The provider of the training (if contracted for outside the organization) is actor four. Each actor measures success differently. Each has different methods and timelines for the measurement, and therefore a different perception of program validity. For the workers, success is an individual assessment determined by how they improved from pre-course to post-course measurements; this assessment is short-term and objective (based on individual test scores). For the union, concerned with worker well-being, success is based on surveying the workers for *reactions* to the training taken, not measured improvement; this assessment is also short-term and subjective (based on feelings). For management, success is most often measured by increases in worker productivity; this assessment is long-term and objective (based on workers' ties to production figures). Finally, for the provider of the training, success is measured by overall increases in workers' scores as a group, *compared against other similar groups trained*; this assessment is relatively short-term and objective (based on comparing group scores to group scores).[10] Therefore, success depends on whom you ask.

Despite the complexity involved in determining who should be assessed, as well as determining the emphasis of the assessment, the literature universally agrees that assessment must occur. Worker skills must be assessed before training occurs, both to determine pre-course abilities as well to determine the content of the training itself. Assessment must include observing job practices and key communication skills involved in job responsibilities. This step is important both for employees in basic skills programs and for employees in managerial/supervisory improvement programs. Additionally,

assessment should measure overall programmatic issues and should be balanced between measurements of participant reaction, participant learning, participant behavior, and results of training over a longer term.

Program context is the issue of how the program should be structured. If profitability and productivity are the sole concerns, then the program will have a decidedly job-oriented approach. If, on the other hand, company officials step back and view the literacy issue from a higher level, then the program context might go beyond just the needs of the job and approach lifeskills as well. This broader approach has been described as "holistic." The direction of programs within the workplace, therefore, varies upon the industry, the desires of its workers, and the needs and beliefs of its management.

The literature is mixed regarding the differences between the context-based and holistic approaches. Neither approach is strongly favored over the other. Factors such as industry environment, management beliefs, corporate ownership (private or public) company size, employee demographics (non-American, for example), profitability, and nature of work processes, all influence decisions about which approach is appropriate. However, the literature does "tip the scales" in favor of a context-based communication skills programs.

WHAT ARE THE CONCERNS OF ACADEMIC INSTITUTIONS ACROSS AMERICA REGARDING TEACHING COMMUNICATION SKILLS?

Academic institutions are also concerned about communication skills, but from a different perspective. Their concern is not primarily with the communication skills of

their employees, but rather with how best to teach students. Prominent academic leaders in the communication education arena are concerned that communication departments and curriculum programs lack a clear vision of who they are, provide little in the way of research to deal with this issue, and tend to offer an inchoate curriculum for communication study.[11] However, there are several programs across the United States that are applying new approaches to teaching communication skills with positive results. Not surprising, there is little agreement on which approaches work best, or what differences there are between program approaches.

Public law 95-561, the 1978 Amendments to the Elementary/Secondary Education Act, identifies speaking, listening, reading, writing, and mathematics as basic skills.[12] The law implies that students are to possess skills in these areas. Skill is "the ability of an individual to perform appropriate communicative behavior in a given situation."[13] By defining communication as a skill the question is not whether a person always demonstrates particular behaviors, but rather whether a person has the ability to perform the appropriate behaviors.

Huff and Kline suggest teaching communication skills, particularly writing, as a process.[14] The process consists of rehearsing, composing, valuing, and judging one's own and others' work. Contemporary composing theories and research suggest that all communication should be taught as a process and not a product. This approach suggests that the evaluation and feedback should be made at various steps during the process and not simply after the final product is produced.

The issue of assessing performance has gained much attention since the early 1980's. In an effort to ameliorate this problem the Speech Communication Association developed nine principles to provide guidance in assessment.[15] Of the nine principles, five are directly related to this study.[16] First, assessment should be based on goals that are operationalized. Second, the overall process should be aimed at improving the communication skills programs. Third, the assessment program should recognize the competing demands of constituencies such as other departments and future employers of the students. Fourth, the process should be based on multiple methods of data collection. Fifth, the assessment program should enhance the learning process.

The literature provides many approaches to assessing areas of communication skills. Rubin, Welch, and Buerkel argue that learning implies an increase in skills, knowledge or a combination of both, and only through performance-based evaluation can you determine the outcome.[17] Although Rubin, Welch, and Buerkel believe a trained evaluator is paramount, Carlson and Smith-Howell suggest that speeches can be evaluated reliably and with a significant degree of validity using a variety of forms and using raters with little training or experience.[18] Their findings suggest that individuals with varying backgrounds can detect the presence or absence of objective criteria in an oral presentation. However, trained faculty are required to effectively teach communication skills.

The available literature does appear to have consensus on one issue—written language should be regarded as an instrument of learning appropriate for any subject area. An analysis of the various programs in the literature revealed three trends that are useful

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in determining the status of writing programs at the university level.[19] First, writing is seen as a process, a way to learn that is interactive across the curriculum. Second, while every teacher teaches communication skills at least indirectly, few have the training to do it effectively. Finally, core writing program courses should develop the basic mechanical skills and focus on writing for a specific audience to meet a specific purpose. The remainder of writing skills development takes place in other courses by showing students how to apply writing skills across different academic disciplines. This ensures actual learning takes place, not simply memorization of mechanics.

A clear message from the review of literature is the need for faculty development programs to prepare instructors to teach communication skills. Researchers especially stress the importance of developing faculty to provide the critical feedback necessary for proper skill development. However, the *type* of instructor development varies between specific courses on teaching English, to selection and training of "student fellows" who provide students feedback and instruction. Perhaps this lack of agreement on just how to provide feedback results from the contention that the communication skills discipline is itself undecided on many critical issues.[20]

A nationwide survey of communication programs revealed that the discipline is in a state of confusion.[21] However, consensus seems to be growing on an approach to the teaching of oral communication—an approach referred to as Oral Communication Across-the-Curriculum. This relatively new approach for oral communication grew from the language across-the-curriculum approach used in Great Britain since the 1960's.[22]

The across-the-curriculum programs in the United States differ in some ways, but they share several important characteristics.[23] All provide faculty training in oral communication for non-speech faculty, offer laboratory assistance for those seeking additional help, and were modeled after writing across-the-curriculum programs common in this country. An important observation by Cronin and Glenn suggests that the most critical factor in program success is the proper training of non-speech communication faculty to develop and implement the program.[24]

A common thread between both oral and written communication skills across-the-curriculum literature is the issue of faculty training. Cronin and Grice present two models that can provide this critical training that enables across-the-curriculum programs.[25] The training model attempts to provide instruction to non-speech faculty in the theory and skills necessary to conduct oral communication skills activities in their classrooms. Workshops, seminars and retreats are conducted to provide this critical instruction so faculty can conduct their classes without direct involvement from the communication department. The second model attempts to ameliorate the problem of limited faculty expertise through a consulting/training (CONTRA) program.[26] This approach provides limited faculty training up front and augments this training with consultative expertise from the communication department.

HOW WELL DOES THE WAY THAT AU CURRENTLY TEACHES COMMUNICATION SKILLS MEET THE NEEDS OF ITS STUDENTS?

The researchers examined the current status of communication skills curricula at AU PME schools through personal interviews and reviewing archival records. Additionally, a survey instrument provided data concerning the perceptions of communication skills throughout the Air Force and at PME.

Communication skills curriculum development, as is all enlisted PME curriculum, is centrally developed by the College for Enlisted PME. While the commandants at each level of education provide inputs to communication curriculum development, this consolidation provides congruence between all levels and within all schools. As a result, the schools' communication skills lessons are built on a building block approach. In comparison, officer PME curriculum development is decentrally controlled and executed, allowing for larger differences in terms of programs and faculty development.

There are differences among the schools in terms of administering diagnostic tests. Currently, ALS, NCOA, and SNCOA administer diagnostics,[*] however, the NCOA is in the process of discontinuing the program. Testing is conducted for similar reasons, primarily to identify skill deficiencies that pose potential problems in course completion. In all cases, students are not required to take any specific action, but rather they are *encouraged* to participate in a remedial program designed to improve their skills. However, the focus seems to be on completing the requirements of PME, not focusing specifically on skills necessary to perform one's job.

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[*] AWC uses their first written essay evaluation as a writing diagnostic.

There does seem to be consensus on the basic approach to teaching communication skills—the six-step organizing process.[27] In addition, in schools with an overt communication skills curriculum, the programs are based on students developing products and receiving feedback upon completion. The schools do vary in terms of what the students use as subjects for communication exercises. The SNCOA is different from the others in that they require students to select topics from course materials and require additional research—somewhat of an across-the-curriculum approach. Although SOS allows students to select books related to leadership, officership, and military thinking as well as current military issue topics for some of their products, they do not specifically relate to curriculum instruction outside of the communication skills area. However, one could argue that the books assist the school in helping students gain an appreciation for the dedication to the profession of arms—part of the SOS educational mission.

There are differences and similarities in faculty training regarding the communication skills programs at AU. The enlisted PME schools and SOS require attendance at a full AIS course prior to becoming a certified instructor, while ACSC and AWC augment a shortened AIS course with in-house training. Regardless of the means chosen for developing faculty for instructor duties, there is no specific training in any school in terms of how to teach communication skills. All schools do conduct in-house training to normalize the grading process, however, there is no training in how to teach and critique the concepts of organization, support, and expression/delivery.

A survey instrument was developed to assess communication skills in the Air Force. The survey solicited perceptions of junior field grade officers attending Air Command

and Staff College and noncommissioned officers attending the Senior NCO Academy with the belief that their responses would provide an informal view of the state of communication skills in the Air Force. The data provided two different perspectives, one officer and one enlisted.

The data shows that both groups agreed that writing skills are important for all jobs throughout all ranks, but the degree of importance increases as rank increases. Similarly, there is a perception that as individuals increases in grade, their skills increase as well, but there is still room for improvement at all levels.

Both groups see reading skills as an important aspect of one's job responsibilities. Although the skills are more important for higher ranks, there is consensus that reading skills are important at all ranks. Both groups see a deficiency in reading skills—particularly in the lower ranks.

The respondents believe that speaking skills are an important aspect of one's job responsibilities, but the degree of importance increases with rank. However, as with reading and writing areas, improvement is needed in all ranks.

Survey respondents were also asked to assess their own personal communication skills in performing their primary jobs. For both groups, self-report data of personal skills were consistently and significantly higher than their assessment of the average person in their grade. In other words, respondents believe there is a problem, but that the problem rests more with others than with themselves. Results of this self-assessment are displayed in Figure 5-1 and Figure 5-2.
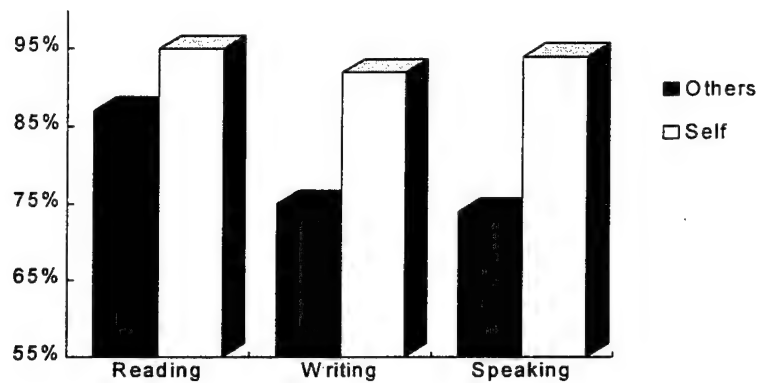
Figure 5-1. Comparison of Self-Report measures and Peer Assessment—ACSC Students
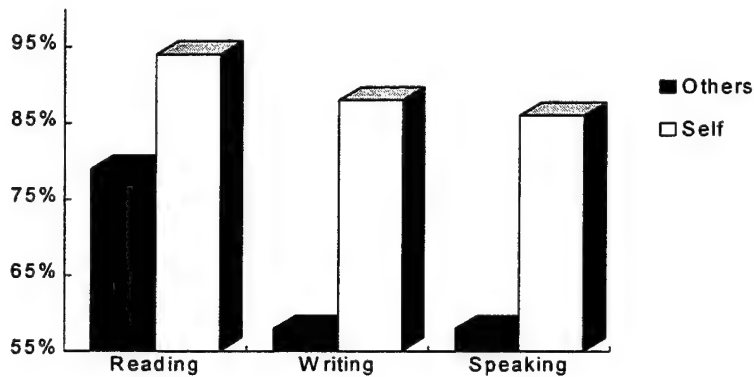
Figure 5-2. Comparison of Self-Report measures and Peer Assessment—SNCOA Students

Finally, individual's were asked to assess their own communication skills in relation to their PME experience. Individuals in both groups believed that they possessed the necessary speaking, writing, and oral communication skills to successfully complete the course. However, the ACSC students were not as confident as the SNCOA students in the areas of reading while SNCOA students were less confident in the area of speaking.

In terms of improvement in communications while attending PME both groups felt they improved, but not to the same degree. Figure 5-3 compares the results in the areas of reading, writing, and speaking between both groups of students. ACSC students felt more strongly in reading skills improvement while the SNCOA students perceived more improvement in the areas of speaking and writing.
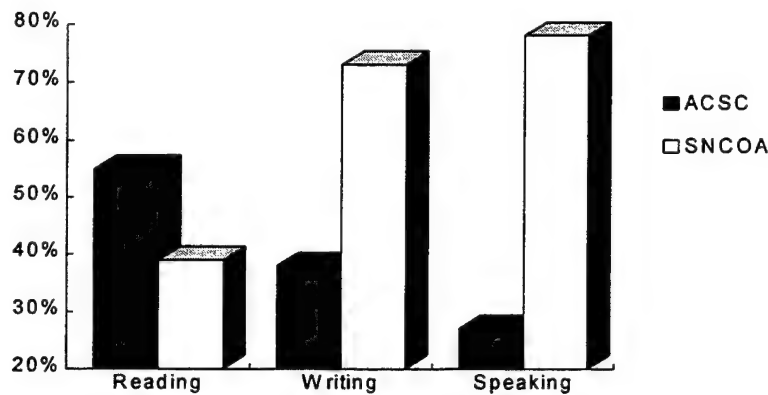
Figure 5-3. Comparison of Self-Report Measures of Improvement in Communication Skills at PME

Significant differences were noted in students' perceptions of the quality of the faculty evaluating their skills in writing and speaking, as shown in Figure 5-4. In both cases, the ACSC students perception was significantly lower than the students at the SNCOA. This finding may be attributed to the differences in communication curriculum between the schools, or possibly a result of the differences in faculty training programs. SNCOA faculty attend the longer version of AIS and complete a basic English skills primer while ACSC faculty attend the shorter version of AIS and are *assumed* to possess the necessary communication skills to evaluate student writing and briefing assignments.

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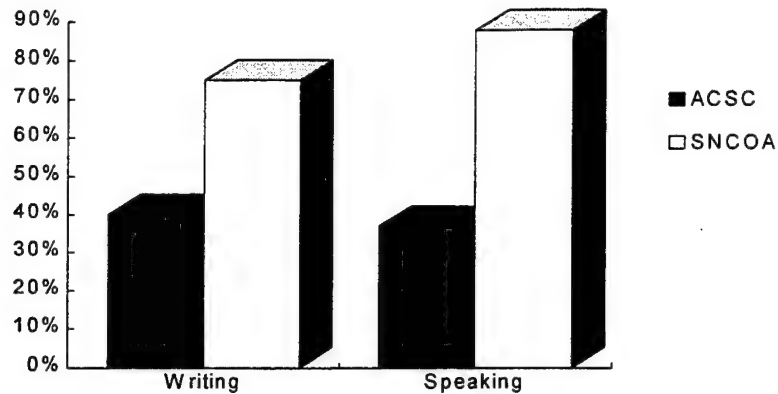
Figure 5-4. Comparison of Faculty Evaluating Communication Skills

CONCLUSIONS

The technical policy research design of this study employed a multidimensional approach to gain an understanding of the issue. Majchrzak describes policy research as being responsive to the user, multidimensional in scope and methods, and explicitly incorporates the values of the researcher and user.[28] The challenge of this study was to meet the expectations of the intended user, examine a complex, multidimensional issue in a real world setting, and attempt to integrate the values of the researchers and intended users. The action-orientation of this study yielded the following conclusions concerning the issue of improving communication skills at AU:

1. Communication skills programs must be needs based. The literature from both the workplace and academia agree on this point. Successful programs were based on the needs of the individual and the organization. The review of current programs at AU revealed a deficiency in this area. Currently AU programs are not based on the

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systematically documented needs of individuals. In some cases diagnostics were used to establish student abilities, but there was no correlation with the skills necessary on the student's primary job. Additionally, student responses from the survey spanned the entire scale from strongly disagree to strongly agree when asked if individuals possessed the necessary communication skills. A plausible explanation for this range of responses is that in some cases individuals do not posses the *right* communication skills to perform their jobs.

2. <u>Communication is a process and communication skills should be taught and evaluated as a process</u>. A common thread throughout the literature is the idea of teaching communication skills as a process. The review of AU programs indicated that all schools who teach communication skills as part of the curriculum, teach communication as a process—the six-step organizing process.[29] However, the literature also suggests that students learn best when they receive instruction and feedback throughout the process—a point that was often lacking in the AU programs. The common approach at AU schools is to provide feedback at the end of product development. The unfavorable student perceptions regarding the degree of improvement in communication skills as a result of attending PME may be attributed in part to this departure from the consensus in the literature.

3. <u>Communication skills programs are more effective when they are context based</u>. The workplace literature is convincing that the context of communication skills exercises is critical in students being able to apply concepts on the job. A similar conclusion can be drawn when considering the across-the-curriculum approaches in academic institutions.

Teaching communication skills in non-communication courses provides students an opportunity to apply their basic skills in a new environment. Using writing assignments and oral assignments as learning tools enhances their value to students and makes the learning situation more effective. Currently, most schools at AU use a context based approach. Although subjects for communication projects are often not directly linked to other curriculum areas, the products produced seem in most cases to simulate real world taskings. This observation is supported by students believing they have the necessary communication skills to perform in the workplace and to complete PME.

4. Communication skills should develop commensurate with individual professional growth. The workplace literature suggests that individuals must develop communication skills as they progress through their professional careers. The survey results, as shown in Figure 5-5, Figure 5-6, and Figure 5-7, support this conclusion. Respondents from both ACSC and the SNCOA believe that individuals require more communication skills as they progress through their careers. The concept of progressive growth underpins the timing and phasing of PME—providing the *right education* at the *right time* in an individual's career. While there doesn't appear to be a specific plan to develop communication skills in officers, there is a centrally controlled curriculum in enlisted PME.
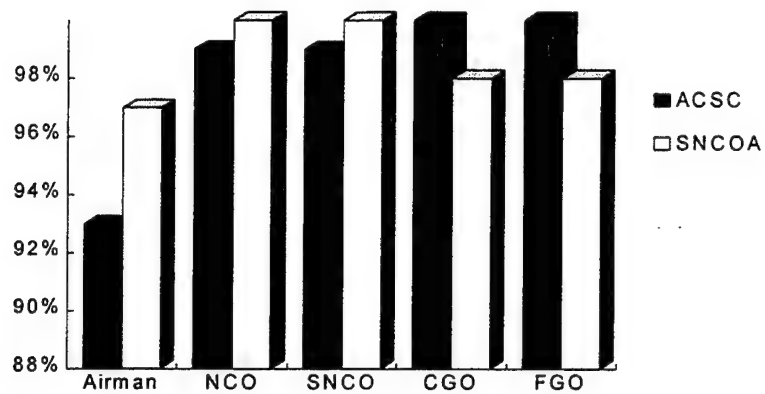
Figure 5-5. Reading Skills are Important Job Skills
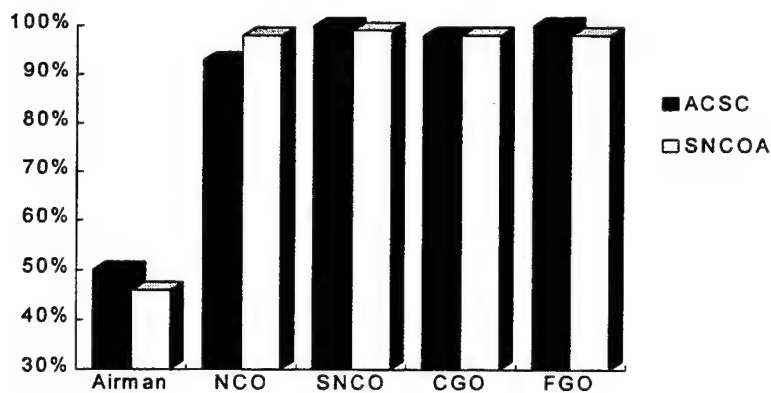
Figure 5-6. Writing Skills are Important Job Skills
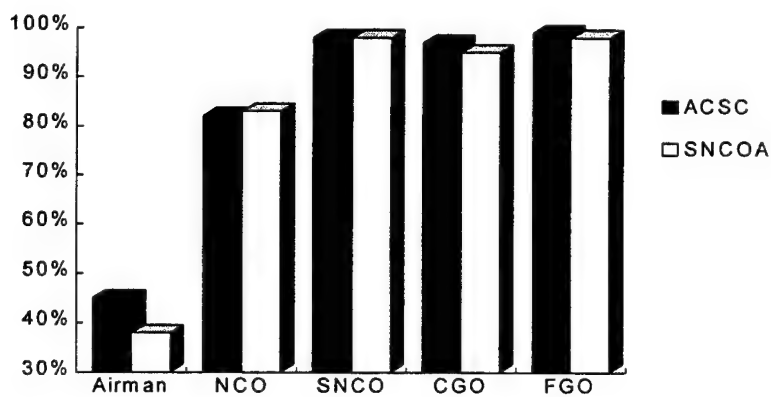
Figure 5-7. Speaking Skills are Important Job Skills

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5. <u>Communication skills instruction is more effective when taught as an across-the-curriculum approach</u>. The academic literature suggests that communication skills should be taught in all subject areas to maximize learning. There is a wide range of approaches at AU—from little or no formal communication skills curriculum at ACSC and AWC, to an across-the-curriculum approach at the SNCOA. Not surprisingly, students at the SNCOA rate their school's communication skills program much more positively than those at ACSC, as shown in Figure 5-8.
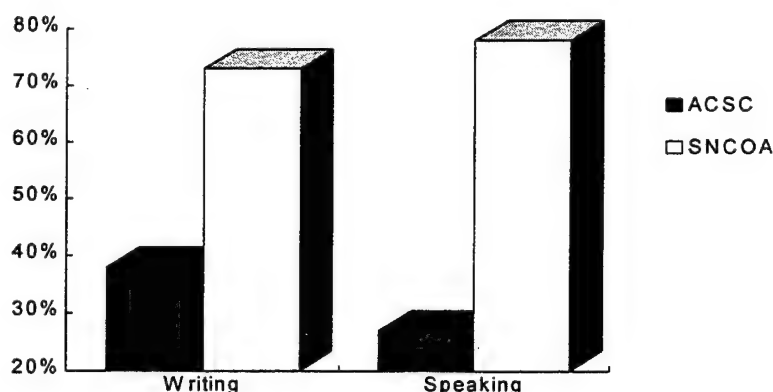
Figure 5-8. Attendance at this School Improved my Skills

6. <u>Although relatively little expertise is needed to be a valid and reliable *evaluator*, a great deal of expertise is required to be a communication skills *instructor*</u>. The literature suggests that little expertise is required to effectively provide objective assessment of student performance in communication skills. However, the literature also makes the point that there is a great difference between providing evaluation of student performance and actually improving student performance. The later requires formal training while the former can be accomplished with little training. Although instructors at the enlisted PME

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schools attend Academic Instructor School, they receive little formal training in communication skills instruction. Most schools do provide norm reference training to standardize evaluation, but currently there is no formal instruction in how to teach or develop communication skills curriculum.

7. There is a perception among mid-level career Air Force members that communication skills are important job skills for members of all ranks and that some individuals lack the necessary skills. The survey data supports the assumption that a perception exists which regards communication skills as important job skills, as previously shown in Figure 5-5, Figure 5-6, and Figure 5-7. The survey further supports the conclusion that individuals would benefit by developing more communication skills, as shown in Figure 5-9, Figure 5-10, and Figure 5-11, because there are individuals throughout the ranks who lack some skills. Although students paradoxically perceived they possessed the skills while at the same time reporting that others do not, the literature explains this perceived difference. Self-reported measures of communication skills show some correlation with performance, but assessment of others is a more valid and reliable measure. In other words, individuals can more objectively evaluate communication behavior of others.
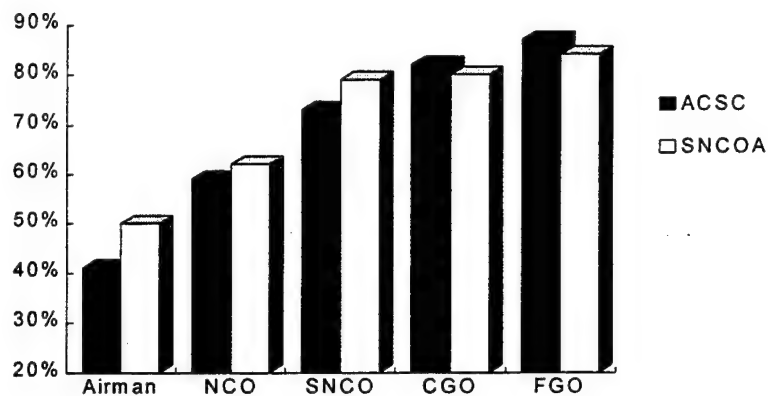
Figure 5-9. Individuals Possess Reading Skills
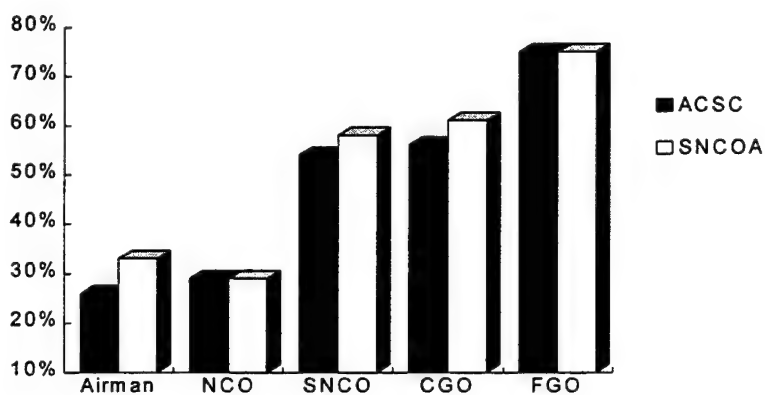
Figure 5-10. Individuals Possess Writing Skills
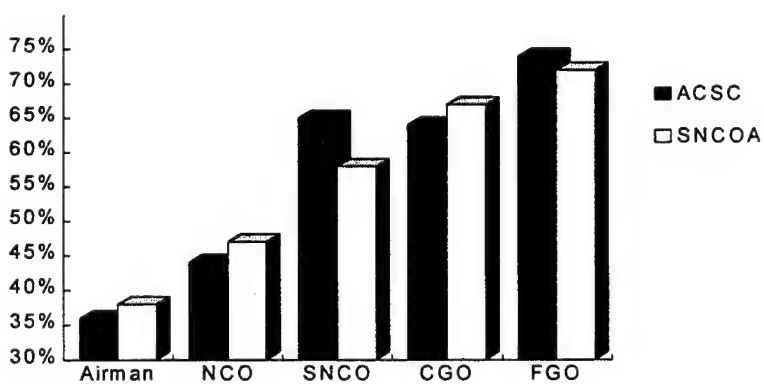
Figure 5-11. Individuals Possess Speaking Skills

RECOMMENDATIONS

The purpose of this policy research was to provide recommendations on how to teach communication skills more effectively at AU. This multidimensional approach to answering the evasive research question is policy research at the organizational level. The research team offers the following recommendations:

1. <u>Communication skills programs throughout AU must be needs based and commensurate with individual level of responsibility</u>. Although one might recommend sending out thousands of surveys or conducting an extensive job analysis, the research team recommends using the student populations at AU as the targets of focus groups to determine what skills are required at each grade level. Individuals from all ranks and careers attend various AU courses. The AU Commander should appoint a tiger team to develop a plan for gathering data during the coming academic year. A core group of interviewers should be used for the focus interviews to enhance reliability in data collection and analysis.

The tiger team should administer diagnostic tests to the AU student focus groups as well. There are several valid and reliable instruments, Rubin's CCAI for example, that can be adapted for AU's use. The same core interviewers should administer the diagnostic tests to ensure reliable measurements. Once data is collected from the focus interviews and the diagnostic tests, the tiger team will perform a gap analysis and make recommendations for curriculum changes to close the gaps at each level. This two-fold assessment process will determine the needs of Air Force personnel in relation to their job

performance requirements. From this data analysis AU can more effectively integrate the *right communication skills curriculum* into PME courses at the *right time* in one's career. The team should ultimately develop a communication skills grid similar to the grid used at the Air Force Quality Institute for implementing quality concepts throughout PME.[30]

2. Feedback should be given to students throughout the communication process. The research team did not find anything in the literature that suggests AU should adopt a new communication process to teach. However, the literature is clear that feedback and instruction must take place *during the entire process* to be effective while teaching at the application level and above. Curriculum developers should incorporate this concept into their teaching plans and curriculum. This practice may reduce the number of products that can be presented and evaluated, however the benefit of more effective education is worth this small cost in quantity.

3. Communication skills are more effectively taught across the curriculum in a context-based format. Once needs are identified through assessment, the communication curriculum should be applied in an across-the-curriculum format. Many of the higher levels of learning desired in AU courses could be attained by involving the student in the learning process through communication skills exercises. The literature suggests that approaching communication skills in this way enhances learning of the subject matter while enhancing the student's learning and application of communication skills. The assignments must also be closely related to situations students will face upon return to their primary jobs. Using official memorandums and position papers as exercises does not meet this requirement. The exercises must closely relate to the types of analysis,

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organization, and time compression situations students will face at their units. Communication assignments must be context-based in content, not simply format.

4. <u>Faculty training in communication skills must be a priority</u>. Underpinning any approach to communication skills requires an expertly trained faculty. In the 1960's, AU had a cadre of experts at the Academic Instructor School who served as communication skills consultants for the schools and taught communication skills to instructor candidates. The AU Commander must again make such a cadre of experts a resource priority for the future of effectively teaching communication skills at AU. This cadre of bonafide communication experts would develop communication skills expertise in all faculty at AU. Therefore, because of their ongoing mission to develop academic instructors for the Air Force, the logical organization to develop this cadre of communication experts is the Academic Instructor School. In addition, this cadre would provide a consulting service to the schools to assist in the development of the across-the-curriculum approach and provide assistance to instructors who need help in developing their own expertise in teaching communication skills.

How can we more effectively teach communication skills at AU? This question, although very illusive and murky at times, does have some concrete solutions. This study did not attempt to develop curriculum for AU, but it does provide four recommendations that provide a framework from which the development can commence.

Notes

[1] William T. Fagan, "Adult Literacy Surveys: A Trans-Border Comparison," *Journal of Reading* 38 (January 1995): 267.

[2] Anita L. Vangelisti and John A. Daly, "Correlates of Speaking Skills in the United States: A National Assessment," *Communication Education* 38 (April 1989): 132.

[3] Mohsen Mirshafiei, "Culture as an Element in Teaching Technical Writing," *Technical Communication* 41 (April 1994): 276-82.

[4] Joseph H. Mahaffey, "The Communication Skills Program at the United States Air Force Air University," in *Communication in General Education*, eds. Francis Shoemaker and Louis Forsdale (Dubuque, Iowa: Wm. C. Brown Company Publishers, 1960), 189.

[5] Ann Majchrzak, *Methods for Policy Research* (Newbury Park, CA: Sage Publications, 1984), 13.

[6] Edward L. Castor, "Reading, Writing, and Cover-Ups," *Across the Board* 28 (September 1991): 27-29.

[7] Eunice N. Askov, "Literacy: Impact on the Workplace, Family, and School," *Education* 111 (Summer 1991): 543.

[8] Louis A. Ferman, ed., *Joint Training Programs: A Union-Management Approach to Preparing Workers for the Future* (Ithaca, NY: ILR Press, 1991), 16.

[9] See the work of Faneuff, for example.

[10] Eunice N. Askov, "Approaches to Assessment in Workplace Literacy Programs: Meeting the Needs of all the Clients," *Journal of Reading* 36 (April 1993): 551.

[11] Donald G. Ellis, "Language and Communication," *Communication Education* 42 (January 1993): 79-92.

[12] Marshall G. Most, "Certification for Speech Communication Teachers: A Nationwide Survey," *Communication Education* 43 (July 1994): 195-204.

[13] James C. McCroskey, "Communication Competence and Performance: A Research and Pedagogical Perspective," *Communication Education* 31 (January 1982): 5.

[14] Roland Huff and Charles R. Kline, II, *The Contemporary Writing Curriculum* (New York: Teachers College Press, Columbia University, 1987).

[15] Ellen A. Hay, "A National Survey of Assessment Trends in Communication Departments," *Communication Education* 41 (July 1992): 247-57.

[16] The other four principles are: provide data relevant to student knowledge, skills, and attitudes; externally validate instruments; data collection, storage, and interpretation should be in the communication department; and assessment is the responsibility of every faculty member. These principles underscore that assessment is a charge to faculty to use multiple means for determining if the unique goals and objectives of the institution are being met.

Notes

[17] Rebecca B. Rubin, S. A. Welch, and Rick Buerkel, "Performance-Based Assessment of High School Speech Instruction," *Communication Education* 44 (January 1995): 30-9.

[18] Robert E. Carlson and Deborah Smith-Howell, "Classroom Public Speaking Assessment: Reliability and Validity of Selected Evaluation Instruments," *Communication Education* 44 (April 1995): 87-97.

[19] Paul Connolly and Teresa Vilardi, eds., *New Methods in College Writing Programs* (New York: The Modern Language Association of America, 1986).

[20] Ellen Wartella, "Challenge to the Profession," *Communication Education* 43 (January 1994).

[21] Most, 195-204.

[22] Michael Cronin and Phillip Glenn, "Oral Communication Across the Curriculum in Higher Education: The State of the Art," *Communication Education* 40 (October 1991): 356-67.

[23] Ibid.

[24] Ibid.

[25] Michael W. Cronin and George L. Grice, "A Comparative Analysis of Training Models Versus Consulting/Training Models for Implementing Oral Communication Across the Curriculum," *Communication Education* 42 (January 1993): 1-9.

[26] Ibid.

[27] *The Tongue and Quill,* AFH 37-137, provides details on the basic six step process to communication. The basic steps are: 1) Analyze Purpose and Audience, 2) Conduct the Research, 3) Support Your Ideas, 4) Get Organized, 5) Draft and Edit, and 6) Fight for Feedback.

[28] Majchrzak.

[29] *The Tongue and Quill,* AFH 37-137, provides details on the basic six step process to communication. The basic steps are: 1) Analyze Purpose and Audience, 2) Conduct the Research, 3) Support Your Ideas, 4) Get Organized, 5) Draft and Edit, and 6) Fight for Feedback.

[30] During the QAF implementation effort, the Air Force Quality Institute developed a grid to help accession programs, PME, and technical schools understand which quality concepts were to be covered in their courses as well as the level of learning to be achieved. Each accession program, PME, and technical school was listed on one axis while the various concepts were listed on the other. The matrix allowed schools to not only understand their requirements, but also where their curriculum fit into the overall QAF implementation effort.

APPENDIX A

Survey Instrument

The following pages show the survey instrument administered to students at the Air Command and Staff College and the Senior Noncommissioned Officers School of AU, Maxwell Air Force Base, Alabama.

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This survey solicits your personal observations of the communication skills (*Writing, Reading*, and *Speaking*) of Air Force military members. Please circle the appropriate answer to each question. **You should be able to complete the survey in 15 minutes.**

1. I am currently attending: SNCO / ACSC

2. My education level is: HS/GED Associate's Bachelor's Master's Doctorate

For the remaining questions, use the following scale. If "Not Observed", leave question blank.
SD - Strongly Disagree; D - Disagree; N - Neutral; A - Agree; SA - Strongly Agree

Airman: E-1 to E-4 Company Grade Officer (CGO): 2Lt to Capt
Noncommissioned Officer (NCO): E-5 to E-6 Field Grade Officer (FGO): Maj to Col
Senior NCO (SNCO): E-7 to E-9

3. *Writing* skills are an important aspect of the job responsibilities of an airman.   **SD D N A SA**

4. *Writing* skills are an important aspect of the job responsibilities of an NCO.   **SD D N A SA**

5. *Writing* skills are an important aspect of the job responsibilities of a SNCO.   **SD D N A SA**

6. *Writing* skills are an important aspect of the job responsibilities of a CGO.   **SD D N A SA**

7. *Writing* skills are an important aspect of the job responsibilities of a FGO.   **SD D N A SA**

8. Airmen have the necessary *writing* skills to perform their jobs.   **SD D N A SA**

9. NCOs have the necessary *writing* skills to perform their jobs.   **SD D N A SA**

10. SNCOs have the necessary *writing* skills to perform their jobs.   **SD D N A SA**

11. CGOs have the necessary *writing* skills to perform their jobs.   **SD D N A SA**

12. FGOs have the necessary *writing* skills to perform their jobs.   **SD D N A SA**

13. Airmen should be afforded duty time to improve their *writing* skills.   **SD D N A SA**

14. NCOs should be afforded duty time to improve their *writing* skills.   **SD D N A SA**

15. SNCOs should be afforded duty time to improve their *writing* skills.   **SD D N A SA**

16. CGOs should be afforded duty time to improve their *writing* skills.   **SD D N A SA**

17. FGOs should be afforded duty time to improve their *writing* skills.   **SD D N A SA**

18. *Reading* skills are an important aspect of the job responsibilities of an airman.   **SD D N A SA**

19. *Reading* skills are an important aspect of the job responsibilities of an NCO.   **SD D N A SA**

20. *Reading* skills are an important aspect of the job responsibilities of a SNCO.   **SD D N A SA**

21. *Reading* skills are an important aspect of the job responsibilities of a CGO.   **SD D N A SA**

22. *Reading* skills are an important aspect of the job responsibilities of a FGO.   **SD D N A SA**

23. Airmen have the necessary *reading* skills to perform their jobs.   **SD D N A SA**

24. NCOs have the necessary *reading* skills to perform their jobs.   **SD D N A SA**

25. SNCOs have the necessary *reading* skills to perform their jobs.   **SD D N A SA**

26. CGOs have the necessary *reading* skills to perform their jobs.   **SD D N A SA**

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27. FGOs have the necessary *reading* skills to perform their jobs.   **SD D N A SA**

28. Airmen should be afforded duty time to improve their *reading* skills.   **SD D N A SA**

29. NCOs should be afforded duty time to improve their *reading* skills.   **SD D N A SA**

30. SNCOs should be afforded duty time to improve their *reading* skills.   **SD D N A SA**

31. CGOs should be afforded duty time to improve their *reading* skills.   **SD D N A SA**

32. FGOs should be afforded duty time to improve their *reading* skills.   **SD D N A SA**

33. *Speaking* skills are an important aspect of the job responsibilities of an airman.   **SD D N A SA**

34. *Speaking* skills are an important aspect of the job responsibilities of an NCO.   **SD D N A SA**

35. *Speaking* skills are an important aspect of the job responsibilities of a SNCO.   **SD D N A SA**

36. *Speaking* skills are an important aspect of the job responsibilities of a CGO.   **SD D N A SA**

37. *Speaking* skills are an important aspect of the job responsibilities of a FGO.   **SD D N A SA**

38. Airmen have the necessary *speaking* skills to perform their jobs.   **SD D N A SA**

39. NCOs have the necessary *speaking* skills to perform their jobs.   **SD D N A SA**

40. SNCOs have the necessary *speaking* skills to perform their jobs.   **SD D N A SA**

41. CGOs have the necessary *speaking* skills to perform their jobs.   **SD D N A SA**

42. FGOs have the necessary *speaking* skills to perform their jobs.   **SD D N A SA**

43. Airmen should be afforded duty time to improve their *speaking* skills.   **SD D N A SA**

44. NCOs should be afforded duty time to improve their *speaking* skills.   **SD D N A SA**

45. SNCOs should be afforded duty time to improve their *speaking* skills.   **SD D N A SA**

46. CGOs should be afforded duty time to improve their *speaking* skills.   **SD D N A SA**

47. FGOs should be afforded duty time to improve their *speaking* skills.   **SD D N A SA**

48. I have the *reading* skills necessary to perform my job.   **SD D N A SA**

49. I have the *writing* skills necessary to perform my job.   **SD D N A SA**

50. I have the *speaking* skills necessary to perform my job.   **SD D N A SA**

THE FOLLOWING QUESTIONS PERTAIN TO THE PME SCHOOL YOU ARE CURRENTLY ATTENDING.

51. I have the *writing* skills necessary to complete the requirements of this school.   **SD D N A SA**

52. The school emphasizes *writing* skills improvement.   **SD D N A SA**

53. Attendance at this school has improved my *writing* skills.   **SD D N A SA**

54. The faculty is qualified to evaluate my *writing* skills.   **SD D N A SA**

55. I have the *reading* skills necessary to complete the requirements of this school.   **SD D N A SA**

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56. The school emphasizes *reading* skills improvement.   **SD D N A SA**

57. Attendance at this school has improved my *reading* skills.   **SD D N A SA**

58. I have the *speaking* skills necessary to complete the requirements of this school. **SD D N A SA**

59. The school emphasizes *speaking* skills improvement.   **SD D N A SA**

60. Attendance at this school has improved my *speaking* skills.   **SD D N A SA**

61. The faculty is qualified to evaluate my *speaking* skills.   **SD D N A SA**

OTHER COMMENTS

62. What type of program, if any, should the AF offer to help military members improve their *writing*, *reading*, and *speaking* skills (for example, self-paced, off-base, base education office-sponsored, college level, etc.)?

63. What changes would make this PME school more effective in improving students' communication skills?

64. Please provide us with any other comments you may have about the *writing*, *reading*, and *speaking* skills of Air Force military members:

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APPENDIX B

Communication Skills Survey Results

1. I am currently attending:

ACSC	309
SNCOA	354
TOTAL	663

2. My education level is:

	Less than Bachelor's	Bachelor's	Master's	Doctorate
ACSC	0	48	252	9
SNCOA	247	91	16	0
TOTAL	269	117	268	9

3. *Writing* skills are an important aspect of the job responsibilities of an airman.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	6	74	74	124	29	2
SNCOA	19	95	70	127	27	16
TOTAL	25	169	144	251	56	18

4. *Writing* skills are an important aspect of the job responsibilities of an NCO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	0	5	16	186	99	3
SNCOA	2	1	5	194	140	12
TOTAL	2	6	21	380	239	15

5. *Writing* skills are an important aspect of the job responsibilities of a SNCO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	0	0	1	50	256	2
SNCOA	0	0	3	27	324	0
TOTAL	0	0	4	77	580	2

6. *Writing* skills are an important aspect of the job responsibilities of a CGO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	0	2	4	113	189	1
SNCOA	0	1	5	60	268	20
TOTAL	0	3	9	173	457	21

7. *Writing* skills are an important aspect of the job responsibilities of a FGO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	0	0	1	23	285	0
SNCOA	0	0	7	18	309	20
TOTAL	0	0	8	41	594	20

8. Airmen have the necessary *writing* skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	15	95	107	72	3	17
SNCOA	20	99	108	108	5	14
TOTAL	35	194	215	180	8	31

9. NCOs have the necessary *writing* skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	9	108	94	87	1	10
SNCOA	19	149	75	92	7	12
TOTAL	28	257	169	179	8	22

10. SNCOs have the necessary *writing* skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	6	57	74	154	9	9
SNCOA	12	72	66	173	30	1
TOTAL	18	129	140	327	39	10

11. CGOs have the necessary *writing* skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	2	57	76	161	12	1
SNCOA	5	41	83	167	31	27
TOTAL	7	98	159	328	43	28

12. FGOs have the necessary *writing* skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	2	32	43	197	35	0
SNCOA	1	22	58	176	68	29
TOTAL	3	54	101	373	103	29

13. Airmen should be afforded duty time to improve their *writing* skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	12	51	59	136	48	3
SNCOA	6	60	59	174	41	14
TOTAL	18	111	118	310	89	17

14. NCOs should be afforded duty time to improve their *writing* skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	10	31	49	159	57	3
SNCOA	3	35	24	203	77	12
TOTAL	13	66	73	362	134	15

15. SNCOs should be afforded duty time to improve their *writing* skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	11	49	44	133	68	4
SNCOA	8	41	30	166	108	1
TOTAL	19	90	74	299	176	5

16. CGOs should be afforded duty time to improve their *writing* skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	18	42	41	134	72	2
SNCOA	19	66	65	115	66	23
TOTAL	37	108	106	249	138	25

17. FGOs should be afforded duty time to improve their *writing* skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	27	69	36	105	71	1
SNCOA	25	69	73	95	69	23
TOTAL	52	138	109	200	140	24

18. *Reading* skills are an important aspect of the job responsibilities of an airman.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	0	4	17	164	119	5
SNCOA	0	1	9	153	179	12
TOTAL	0	5	26	317	298	17

19. *Reading* skills are an important aspect of the job responsibilities of an NCO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	0	0	4	135	169	1
SNCOA	0	0	0	103	242	9
TOTAL	0	0	4	238	411	10

20. *Reading* skills are an important aspect of the job responsibilities of a SNCO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	0	0	3	82	223	1
SNCOA	0	1	0	55	298	0
TOTAL	0	1	3	137	521	1

21. *Reading* skills are an important aspect of the job responsibilities of a CGO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	0	0	1	77	230	1
SNCOA	0	0	7	59	265	23
TOTAL	0	0	8	136	495	24

22. *Reading* skills are an important aspect of the job responsibilities of a FGO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	0	0	1	63	245	0
SNCOA	0	0	6	49	277	22
TOTAL	0	0	7	112	522	22

23. Airmen have the necessary *reading* skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	4	61	109	114	7	14
SNCOA	4	78	89	157	13	13
TOTAL	8	139	198	271	20	27

24. NCOs have the necessary *reading* skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	1	35	86	169	9	9
SNCOA	1	51	78	193	19	12
TOTAL	2	86	164	362	28	21

25. SNCOs have the necessary *reading* skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	0	13	67	191	27	11
SNCOA	1	24	50	238	40	1
TOTAL	1	37	117	429	67	12

26. CGOs have the necessary *reading* skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	0	15	41	214	37	2
SNCOA	0	7	57	204	60	26
TOTAL	0	22	98	418	97	28

27. FGOs have the necessary *reading* skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	0	12	28	214	55	0
SNCOA	0	5	48	198	76	27
TOTAL	0	17	76	412	131	27

28. Airmen should be afforded duty time to improve their reading skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	11	50	54	132	60	2
SNCOA	5	43	50	187	59	10
TOTAL	16	93	104	319	119	12

29. NCOs should be afforded duty time to improve their *reading* skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	15	62	68	113	49	2
SNCOA	7	52	49	174	60	12
TOTAL	22	114	117	287	109	14

30. SNCOs should be afforded duty time to improve their *reading* skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	18	88	62	91	48	2
SNCOA	11	72	62	142	66	1
TOTAL	29	160	124	233	114	3

31. CGOs should be afforded duty time to improve their *reading* skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	25	83	57	87	56	1
SNCOA	24	93	73	90	47	27
TOTAL	49	176	130	177	103	28

32. FGOs should be afforded duty time to improve their *reading* skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	33	95	51	83	46	1
SNCOA	29	95	72	85	47	26
TOTAL	62	190	123	168	93	27

33. *Speaking* skills are an important aspect of the job responsibilities of an airman.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	3	91	74	119	18	4
SNCOA	23	116	74	111	19	12
TOTAL	26	207	148	230	37	16

34. *Speaking* skills are an important aspect of the job responsibilities of an NCO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	1	16	39	178	74	1
SNCOA	2	20	36	214	71	11
TOTAL	3	36	75	392	85	12

35. Speaking skills are an important aspect of the job responsibilities of a SNCO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	0	1	6	94	207	1
SNCOA	1	1	6	112	234	0
TOTAL	1	2	12	206	441	1

36. *Speaking* skills are an important aspect of the job responsibilities of a CGO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	0	1	7	111	189	1
SNCOA	1	2	13	109	206	23
TOTAL	1	3	20	220	395	24

37. *Speaking* skills are an important aspect of the job responsibilities of a FGO.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	0	0	3	40	266	0
SNCOA	0	0	8	68	254	24
TOTAL	0	0	11	108	520	24

38. Airmen have the necessary *speaking* skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	10	63	121	103	5	7
SNCOA	12	93	109	123	8	9
TOTAL	22	156	230	146	13	16

39. NCOs have the necessary *speaking* skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	3	57	109	128	7	5
SNCOA	13	86	81	144	18	12
TOTAL	16	143	190	272	25	17

40. SNCOs have the necessary *speaking* skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	2	37	69	177	20	4
SNCOA	12	53	85	170	35	3
TOTAL	14	90	154	347	55	7

41. CGOs have the necessary *speaking* skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	1	34	74	187	11	2
SNCOA	5	37	77	168	70	27
TOTAL	6	71	151	355	51	29

42. FGOs have the necessary *speaking* skills to perform their jobs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	1	24	55	197	32	0
SNCOA	3	25	62	167	69	28
TOTAL	4	49	117	364	101	28

43. Airmen should be afforded duty time to improve their *speaking* skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	18	64	56	132	38	1
SNCOA	11	85	59	149	36	14
TOTAL	29	149	115	281	74	15

44. NCOs should be afforded duty time to improve their *speaking* skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	12	37	57	156	46	1
SNCOA	7	50	47	177	48	17
TOTAL	19	87	104	333	94	18

45. SNCOs should be afforded duty time to improve their *speaking* skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	13	54	52	126	62	2
SNCOA	10	59	35	167	82	1
TOTAL	23	113	87	293	144	3

46. CGOs should be afforded duty time to improve their *speaking* skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	18	46	41	138	65	1
SNCOA	16	74	49	132	58	26
TOTAL	34	120	90	270	123	27

47. FGOs should be afforded duty time to improve their *speaking* skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	20	63	43	109	73	1
SNCOA	23	80	53	116	64	18
TOTAL	43	143	96	225	137	19

48. I have the *reading* skills necessary to perform my job.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	1	6	9	151	142	0
SNCOA	0	14	8	177	153	2
TOTAL	1	20	17	328	295	2

49. I have the *writing* skills necessary to perform my job.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	3	6	17	154	129	0
SNCOA	3	19	22	200	108	2
TOTAL	6	25	39	354	237	2

50. I have the *speaking* skills necessary to perform my job.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	0	5	14	161	129	0
SNCOA	5	14	30	185	118	2
TOTAL	5	19	44	346	247	2

51. I have the *writing* skills necessary to complete the requirements of this school.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	0	10	12	173	114	0
SNCOA	2	11	22	218	101	0
TOTAL	2	21	34	391	215	0

52. The school emphasizes *writing* skills improvement.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	29	99	56	91	34	0
SNCOA	2	12	13	165	172	0
TOTAL	31	111	69	256	206	0

53. Attendance at this school has improved my *writing* skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	15	90	86	89	29	0
SNCOA	7	23	64	183	76	1
TOTAL	22	113	150	272	105	1

54. The faculty is qualified to evaluate my *writing* skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	16	66	101	104	19	1
SNCOA	4	16	69	190	72	3
TOTAL	20	82	170	294	91	4

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55. I have the *reading* skills necessary to complete the requirements of this school.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	3	35	26	161	84	0
SNCOA	0	5	14	203	131	1
TOTAL	3	40	40	364	215	1

56. The school emphasizes *reading* skills improvement.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	24	68	64	118	35	0
SNCOA	3	42	55	184	70	0
TOTAL	27	110	119	302	105	0

57. Attendance at this school has improved my *reading* skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	10	64	65	123	46	1
SNCOA	19	81	113	104	34	3
TOTAL	29	145	178	227	80	4

58. I have the necessary *speaking* skills necessary to complete the requirements of this school.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	1	2	13	178	114	1
SNCOA	1	8	27	219	98	1
TOTAL	2	10	40	397	212	2

59. The school emphasizes *speaking* skills improvement.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	15	117	71	96	9	1
SNCOA	1	3	7	160	183	0
TOTAL	16	120	78	256	192	1

60. Attendance at this school has improved my *speaking* skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	16	124	84	68	16	1
SNCOA	6	21	51	177	96	3
TOTAL	22	145	135	245	112	4

61. The faculty is qualified to evaluate my *speaking* skills.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Answered
ACSC	14	64	116	103	11	1
SNCOA	1	5	38	201	107	2
TOTAL	15	69	154	304	118	3

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